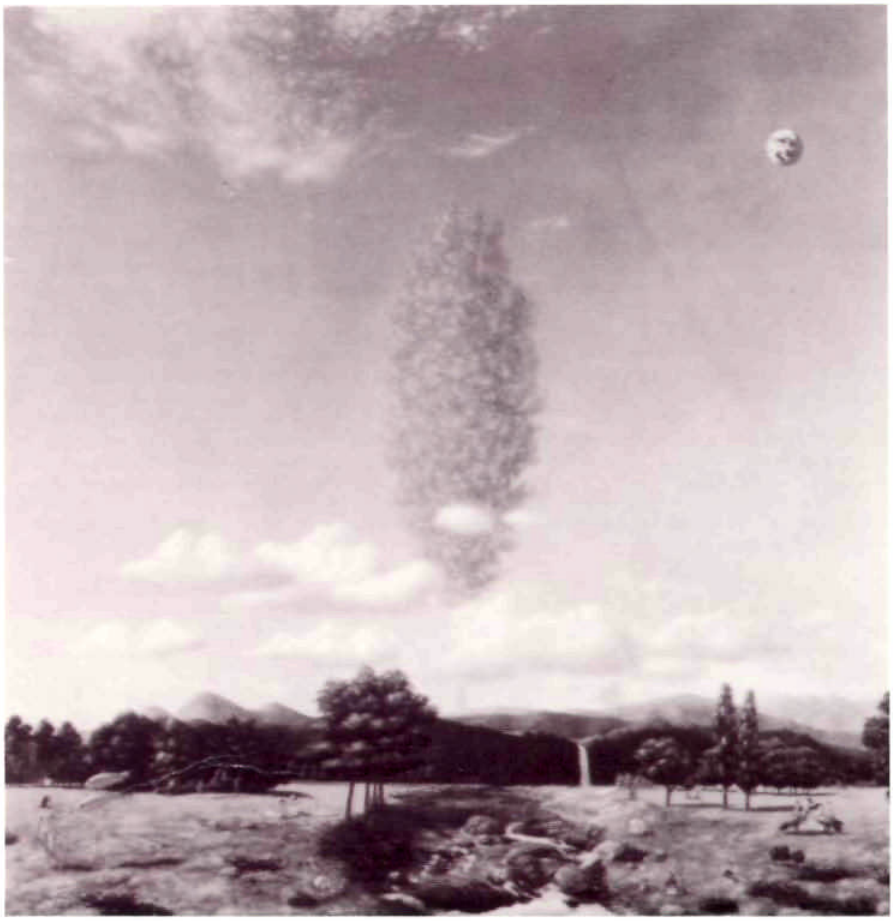
the Skeptical Inquirer

Parapsychology: Sense and Nonsense



Magicians, Scientists, and Psychics
Venus and Velikovsky / TM and Weather
Ghost Ship / Dowsing Experiment

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the Skeptical Inquirer

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ON THE COVER: *A New World*, painting by Cliff McReynolds. © 1983 Cliff McReynolds.

News and Comment

Creationist Conference Recasts Physics, Cosmology, and Geology

The 1983 National Creation Conference was held at Northwestern College in Roseville, Minnesota, August 10–13, 1983, jointly sponsored by the Bible-Science Association and the Twin Cities Creation Science Association (TCCSA). A strange conference it turned out to be.

Several creationist heavyweights attended: Duane Gish, Thomas Barnes, John N. Moore, the Rev. Carl Baugh, and Robert Gentry. About 200 people attended the main conference, and a Saturday "miniconference," slanted toward a lay audience, drew perhaps 400. Altogether, 37 speakers gave 61 presentations.

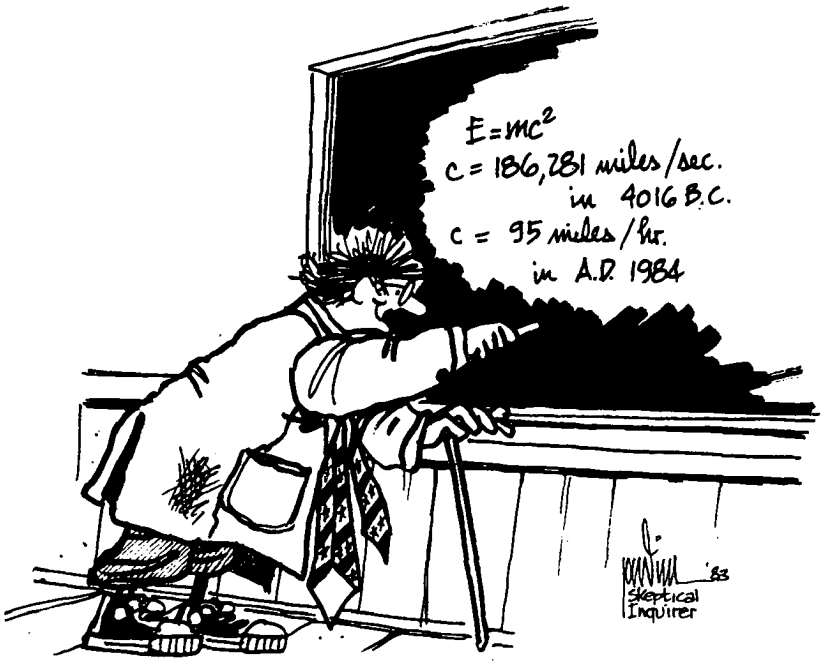
The conference theme was "Science at the Crossroads: Observation or Speculation?" In his welcoming speech, Max Callen, president of the TCCSA and member of the Bible-Science Association board of directors, said, "Some of the ideas presented at this conference will go down in history." Some of the papers were indeed memorable.

The featured speaker, Australian Barry Setterfield, presented papers on the velocity of light and the cause of the Great Flood. We can see galaxies billions of light-years away, a problem for creationists who insist the universe, including the earth, is young. Setterfield claims the velocity of light has decreased over the past 6,000 years by a factor of 500 million. Other fundamental constants, including radioactive decay constants, have changed in similar ways. The universe is contracting, he says, and it will end in a cosmic crunch when the stars literally fall.

Setterfield claims the flood occurred when a meteorite about 100 miles in diameter hit the earth, shifting the earth's axis 18° and creating the Pacific Ocean. Setterfield showed photographs of moon craters and their associated ring and fault features and identified similar structures surrounding the Pacific.

More amazing is Setterfield's inspiration. A theistic evolutionist, Setterfield was alone one night when the Lord invisibly entered his room and spoke to him. They argued about creation for four hours. When Setterfield awoke next morning, he was a creationist, but he whispered one lingering doubt: If the earth is young, as the Bible says, how can we see distant galaxies? Instantly the Lord replied aloud, "What makes you think the speed of light is constant?"

Robert Whitelaw, professor of nuclear engineering at Virginia Polytechnic Institute, offered an alternative



flood theory that he calls "the rift-drift-shift hypothesis." He suggests that the "fountains of the great deep" may have been opened by an alignment of the asteroid Ceres (then a full-sized planet), Mars (also larger then), and the earth. Tidal forces generated by the alignment racked the earth for 40 days, ripping it open at the great rifts. The floor of the Pacific was uplifted and its water swept the earth in enormous tidal waves. Volcanoes "prepared by the Lord" blasted steam into the atmosphere, the continents began skidding apart, and the earth's axis shifted 203° (from inverted vertical to present tilt, the long way). Ceres shattered, and Mars was damaged.

Three papers by Thomas G. Barnes, dean of the Institute for Creation Research (ICR) Graduate School, drew on his book *Physics of the Future—A Classical Unification of Physics*, currently in press. In "A New Concept of Mass—A Rejection of Relativity," he repudiated the special theory of relativity and discussed his electric theories of inertial mass and gravitation. In "A New Unification of Physics—A Rejection of Modern Cosmology," Barnes reduced all forces to electric or magnetic. He claims the strong nuclear force is actually magnetic, that protons spin with a tangential velocity greater than the speed of light, and that certain quantum-mechanical constraints on spin are nonexistent. Without relativity, quantum mechanics, or particle physics, his "physics of the future" bears little resemblance to the physics of the present.

Duane Gish gave two of his old standbys. His "Biochemistry vs. Abiogenesis" is a litany of specious statistical and biochemical arguments. He began his "Evolution: The Changing Scene" by saying he didn't want to be accused of quoting anyone out of con-

The Bible-Science Newsletter vs. ISU's Patterson

The Fall SKEPTICAL INQUIRER reported on the controversy at Iowa State University over a suggestion Professor John W. Patterson made to the Science and Humanities Committee about creationist students. Patterson argued that, in a science class, students who persistently justify creationist beliefs with scientifically incompetent arguments should be flunked. These remarks were publicized (distorted, Patterson claims) by the *Iowa State Daily*. Ultimately, Patterson resigned from the Science and Humanities Committee to avoid jeopardizing its effectiveness.

The incident came to the attention of the Bible-Science Association (BSA), and their July 1983 *Newsletter* carried two identical stories with the following headline: "Iowa State University Professor Resigns After Reaction to Statements Against Creationism." The article begins, "Professor John Patterson, the Iowa State University professor whose comments on creation-evolution received nationwide attention, has submitted his resignation *from the university* after much negative criticism." (Italics added.) The story is false and probably libelous. Patterson, a regular reader of the *Bible-Science Newsletter*, immediately fired off a letter to editor Paul Bartz demanding a retraction.

Weeks passed without a reply. When no retraction appeared in the August issue, Patterson sent another letter, this time by certified mail, "return receipt requested." He received his receipt, but no reply.

Soon afterward, Patterson and I attended the 1983 National Creation Conference, cosponsored by the BSA. Before the first session began, we encountered BSA-founder Wal-

text or misrepresenting anyone, and then spent half an hour quoting evolutionists out of context (rarely more than one or two sentences) and misrepresenting their views.

Other presentations included Jerry Bergman's "The Nazi Movement and Evolution," Robert Gentry's "Radiohalos. Carl Baugh's "Latest Human and Dinosaur Tracks." John Eidsmoe's "Creationism: Can It Win In Court?" and Paul Bartz's "The Biblical Foundation of Modern Science."

Unlike in most public appearances, where creationists avoid mentioning God or the Bible, many speakers cited scriptural support for their ideas. Likewise, questioners raised scriptural objections. Duane Gish, for instance, criticized Whitelaw for trying to "out-Velikovsky Velikovsky." He objected because "the flood was of supernatural origin and cause, and I don't think we should be looking for some naturalistic causation for the flood, or we are just verifying Velikovsky, that God had nothing to do with it. There's a perfectly natural explanation for the worldwide flood."

Few scientific objections were made to the ideas presented. For instance, of the creationists at the conference best qualified to comment on Setterfield's ideas—astronomer

ter Lang. Recognizing Patterson, Lang volunteered that they had heard that Patterson had "moved," left ISU, and went elsewhere. Patterson asked where they'd heard that, but Lang would only say that "somebody told us," and he noted casually, "I guess we even put it in the *Newsletter*."

We talked to Paul Bartz later that evening. He claimed that he never received Patterson's first letter and suggested that it might have been misplaced by a bumbling part-time worker. He said he based his story on a collection of clippings from the *Iowa State Daily* and perhaps other sources. He said he reviewed his sources after receiving Patterson's certified letter and found nothing amiss. (The headline of the March 1, 1983, *Daily* story begins, "Professor quits committee . . . ") Then he asked Patterson if he was still with the university. Assured that he was, Bartz asked, "Didn't you resign or something?" Patterson explained that he resigned from a *committee*, not the university. Bartz implied that his clippings don't indicate that, and he promised that he would send Patterson copies of them.

Neither Lang nor Bartz offered a word of apology. Neither said anything about printing a retraction. The report that Patterson resigned from ISU was widely read and believed among people at the conference, and John N. Moore, Walter Brown, Max Callen, and several others approached Patterson to ask about it. A simple announcement at a plenary session would have been a good-faith preliminary to a full, published retraction, but this wasn't done.

Just before I left the conference, I again asked Paul Bartz if he intended to publish a retraction. He refused to commit himself, but said he would review his clippings and then take action.

— Robert J. Schadewald

Gerardus Bouw; physicists Robert Gentry and Thomas Barnes; engineers Walter Brown, Robert Whitelaw, William Overn, and Max Callen—only Gentry offered any criticism of Setterfield's work. (To his credit, Gentry had *plenty* to say, but time ran short.) Other "creation scientists" were clearly impressed by Setterfield, and Walter Brown thought his work extremely important. If scientific objections to Setterfield's theory were few, some had other reservations. One creationist told me that he and several others had theological problems with Setterfield's conversation with the Lord.

— Robert J. Schadewald

Robert Schadewald wrote "Creationist Pseudoscience" in our Fall issue. He lives in Rogers, Minnesota.

Exposure of Psychic's Envelope Trick Ignored by Columnist

An aging northern California spiritualist who gives "psychic" readings was recently convincingly exposed as a fraud by the detective work of Robert Sheaffer of the Bay Area Skeptics group. Yet a San Francisco newspaper columnist who had written "there's no way [she] could be faking what she does" failed even to acknowledge the evidence that he had been bamboo-

The PA and the Success of Project Beta

Early in 1983, I concluded an experiment designed to demonstrate to the parapsychological community that there is a need for assistance and advice from experienced, competent conjurors not only in the implementation of testing procedures wherein cheating could take place but also in the design and evaluation of such tests. (See *SI*, Summer and Fall 1983.) The experiment consisted of planting two young "psychics," Steve Shaw and Mike Edwards, among the psientists. They were accepted by both the parapsychologists and the pseudo-parapsychologists as genuine, and numerous press pieces, lab reports, and other, informal accounts attested to their wonders. In spite of repeated warnings and specific, detailed discussions of the trickery performed, Steve and Mike were studied over a period of three years as subjects in and out of the labs.

Project Alpha was declared a success both by those who had long wanted to see such a project carried out and by many professional parapsychologists who saw the value of the demonstration. But in the world of psi there was a new terror now loose: I had announced that Project Beta had already been underway even before Alpha was terminated. Jittery parascientists, having jumped to the conclusion that Beta must be of the same nature as Alpha, quavered that I had inhibited further research by this second project. They were quite wrong.

On the day following the annual meeting of the Parapsychological Association (PA) in Madison, New Jersey, in August 1983, I had the pleasure of entertaining at my home Stanley Krippner and John Beloff, both former PA presidents. I have long respected both gentlemen, and my extensive correspondence with them has, I hope, brought them to appreciate my attitudes and opinions regarding parapsychology and other allied subjects. At that meeting, Professor Beloff discussed with me the design of a protocol for testing a young spoon-bender in Scotland. I agreed to supply him with certain prepared material and suggestions on procedures that I felt would effectively prevent any cheating in his tests. (At this conference, I confirmed my agreement with Dr. Krippner that from now on I will refer to only a bona fide member of the PA by the designation "parapsychologist." They, too, are embarrassed by those who claim competence while repeatedly insisting on proving they have none.)

The previous day, I had attended the PA convention as a participant in a roundtable organized by sociologist Marcello Truzzi to discuss the possible uses that conjurors might be to parapsychologists. Prominent mentalists/magicians Milbourne Christopher, Tony Raven, Jack Malon, Bob Cassidy, Scott Gordon and Loyd Auerbach, some of whom even expressed lukewarm belief in some psi phenomena, provided what I felt were valuable points of view that the PA members would do well to heed.

Several suggestions were made: It was felt by the panel that any conjuror consulted should be disinterested in the outcome except to assure that the results were properly arrived at. Not all magicians could be considered competent to examine psi claims and/or protocols, and the magician/consultant would not necessarily have to be present at the tests in all cases. Nor do all psi testing procedures require the involve-

ment of the magician.

Krippner, who was leaving the presidency of the PA, announced a resolution adopted by the council. It read:

> Historically, parapsychologists have availed themselves of the services of experts in fields relevant to their own: statisticians, engineers, and—on occasion—magicians. The PA welcomes collaboration with magicians who, by their past behavior and membership in respected organizations, have maintained high standards of professionalism and have adhered to the ethical code of the fraternity of magicians. We suggest that it is disadvantageous to both parapsychologists and conjurors to interact with magicians who do not meet these criteria and who would exploit such an interaction for personal gain. Therefore, the PA council has voted unanimously to request from organizations such as the International Brotherhood of Magicians, Society of American Magicians and the Psychic Entertainers Association a list of their members who, regardless of their opinions on the existence of psi, would be willing to consult with PA members regarding adequate controls against fraud. We look forward to a fruitful professional relationship with these individuals.

The magicians on the platform were among the most generous with applause for this move by the PA. Personally, I have mixed feelings about the statement. Since I myself do not belong to the brotherhood, the society, or the association named therein, I seem to be eliminated as a candidate. The reason I do not belong to these groups is that none of them forbids members to claim divine origins or supernatural powers.

Professor Beloff had written me just previous to the meeting at my home asking if I might suggest precautions for testing his newly discovered metal-bender in Scotland. When he had finished discussing the matter in person with me, I happily announced to the two scientists that Project Beta was now terminated, with great success. For Beta had all along consisted of waiting to see if (*a*) the parapsychologists would recognize the need for competent outside help from the conjuring profession, and (*b*) whether they would actually fulfill any announced intention of seeking that assistance. I was delighted that the intent of Alpha had been met in the success of Beta.

There are, I know, those among the parapsychologists who will never accept such expert advice, continuing to believe that they cannot be deceived and that bringing a conjuror into the lab might confer upon him or her an undue approbation and perhaps even an equal status with the scientists involved; this is a dangerous myopia. As already mentioned, the official PA statement quoted above is carefully designed to allow those who will to consider me ineligible among the conjurors for consultation. At the PA convention, vicious rumors and outrageous accusations against me and against CSICOP were bandied about freely. But there is a sizable group within the parapsychological community that both appreciates and welcomes my participation and that of other willing persons, and ignores invented evils as fiction. I look forward to a growing relationship with those who have recognized a genuine move toward a more complete understanding between both camps.

And, if I can only convince a certain group of scientists to complete a study begun two years ago, I will announce the termination of Project Gamma.

—*James Randi*

zled.

Michelina Russo, who calls herself "Reverend Russo," instructs people who come to her Cosmic Church of Life in Santa Clara (since moved to Santa Rosa) for psychic readings to put three questions for the spirits to answer in a sealed envelope. She recites the questions without apparently opening the envelope, and then tells the questioner what the spirits advise. The envelopes are provided by the questioner. Since they are all different, she wasn't doing the classic "one ahead" trick.

Bill Mandel of the *San Francisco Examiner* boosted her cause last year after witnessing one of her sessions. "I came away deeply impressed," Mandel wrote. He not only asserted she could not be faking, but said the envelopes were in view at all times. "I never took my eyes off the envelopes."

Sheaffer, as he reports in the August 1983 *BASIS*, the Bay Area Skeptics newsletter, went to see this phenomenon for himself. He was accompanied by Victor Wong, who is skilled in magic and sleight of hand.

They found that she carried out her performance in a tiny, cloth-covered alcove. Only her head and the top few inches of her shoulders were visible. The envelopes were indeed in full view on a rack in front of her. But they didn't stay there.

Sheaffer wrote: " . . . Sorry, Mr. Mandel, the envelope did leave your sight—*as soon as she picked it up and pulled it behind the barrier*. For only a few seconds, to be sure, but that's all it took for her to slit open the envelope and pull out the paper inside." Sometimes, Sheaffer reported, he could even hear a slight tearing sound as the slit was made. On a few occasions, the envelope was transparent enough that it was possible to see that the envelope had paper in it when she picked it up but was plainly empty by the time she was "psychically" reading its contents.

Sheaffer wasn't satisfied to end his investigation there. He and Wong noticed that as soon as she gives an answer, she rips the envelope and drops it in the trash.

After the session, Sheaffer retrieved from a dumpster in the back of the building some of the envelopes she had worked on. He pieced them together as one would a jigsaw puzzle. The effort was time-consuming but worth it.

Reports Sheaffer: "Every single envelope I pieced together had been slit open on one end with a sharp blade."

Sheaffer was also able to show that the answers she gave from the "spirits" showed no evidence of omniscience. He had asked her for advice from his brother John. The spirits gave it. Sheaffer has no brother. He asked whether he should sell his boat to pay off his debts. They said yes. He has no boat and no debts.

Sheaffer, before publishing his ar-

ticle, brought all this information to the attention of Mandel, assuming he would want to correct his column's positive endorsement of Russo. Sheaffer even offered to show him exactly how Russo's trick was done. He received no answer from Mandel. No corrective column has ever appeared.

Note: The SKEPTICAL INQUIRER sent Mandel the text of this article and a letter urging him to comment or to correct the record. He did not reply.

—*K.F.*

Counterfeit UFO Flap: Soviets Finally Reveal Base

One of Russia's best-kept "space secrets" has finally been officially acknowledged, and all because of a series of UFO "flaps" that has been panicking residents of Moscow and neighboring cities in recent years. The secret was the existence of the Plesetsk space center several hundred miles north of Moscow, an installation never before admitted to by the Soviet government.

In the June 20, 1983, issue of *Pravda*, space correspondent Viktor Gubarev disclosed that Plesetsk has been in existence for almost twenty years. His article, entitled "Place of Lift-off—Plesetsk," followed by two weeks a passing reference to the Plesetsk space center in an article about another launch-site. The article acknowledged the base and specifically mentioned that dramatic UFO sightings in the vicinity were due to its rocket launches.

"The UFOs made them do it," says Soviet space expert James Oberg, a fellow of CSICOP and prolific author of books and articles about space flights.

The UFOs Oberg refers to are those that were widely seen and reported in northwestern Russia over the past several years. Giant glowing spheres, often dangling "tentacles" or trailing long, fiery tails, have startled thousands of ordinary Soviet citizens. But these "UFOs" were actually launch contrails of space boosters sent up from Plesetsk.

"The Soviet government was stuck between the proverbial rock and a hard place," said Oberg. "They denounced 'flying saucers' as an invention of the West's 'yellow journalism,' but they were unable to give the public an honest explanation for these terrifying sightings." The reason for official Soviet silence was that Plesetsk was primarily a military satellite-launching base—and officially Russia has no military satellites.

Consequently, the "official explanations" for the UFOs were strained and obviously artificial. "At one point," Oberg recalled, "one scientist nearly called them 'swamp gas'—he said they were formed from 'chemoluminescent industrial smog' excited by solar radiation."

The most impressive of the "Plesetsk pseudo-UFOs" was seen mainly from the city of Petrozavodsk on September 20, 1977, as well as from Estonia and Finland. Because of its form, it was dubbed the "jellyfish UFO" and became famous around the world when American tabloid newspapers published rumors of how it had "attacked" the city. This "jellyfish UFO" was solved by Oberg's own research (*SI*, Fall-Winter 1977).

Other major sightings occurred on June 14, 1980, and May 15, 1981. In those cases, startled eyewitnesses ran in terror through the streets, fearing either an American nuclear attack or the Second Coming. Less impressive sightings have been reported several times a year.

These cases were first publicly con-

nected to secret Plesetsk launchings in a paper presented by Oberg to the British Interplanetary Society in June 1982. The conclusions were subsequently described in the *Christian Science Monitor* (June 9, 1982, p. 1), *Omni* (October 1982), *Reader's Digest* (March 1983, p. 19), and elsewhere.

"The UFO connection with the announcement is pretty definite," noted Oberg. "The first several paragraphs of the *Pravda* article recount some other sensational UFO encounters which were caused by similar Plesetsk launchings."

Nor is the timing of the announcement entirely arbitrary, claimed Oberg. "The results of my research have been widely published around the world in the last twelve months," he pointed out. "I intend to claim part of the credit for embarrassing them over their transparent coverup and 'goosing' them into publicly acknowledging what Western space experts have known since 1966." At that time, an amateur group of radio listeners, called the "Kettering Group," first announced the discovery, based on the orbital paths of some Soviet satellites.

"One should not jump to the conclusion that Moscow has been forced to tell the whole truth," cautioned Oberg. According to the *Pravda* article, Plesetsk was set up to conduct launchings of artificial satellites for purposes of national economic applications. But, according to Oberg, such flights account for only one-tenth of the space traffic out of the base. The remainder consists of spy satellites of various types, and of military navigation and command/control satellites.

Plesetsk is also the site of test firings of the "PL-5" missile, Russia's "MX." And U.S. intelligence sources report that the Soviets have deployed between forty and one hundred mobile SS-16 ICBMs at Plesetsk. Both the PL-5 tests and the SS-16 deployments are considered by some observers to be violations of the SALT accords.

"The funniest part of this pseudo-UFO flap," commented Oberg, "was that the Russians were really seeing genuine space vehicles. They just didn't know which planet they had come from. It wasn't around some distant star—the spaceships were branded with a red star."

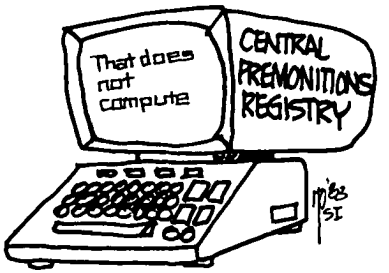
Claims of Prophetic Powers: A Serious Investigation Needed

"Prophet" Alan Vaughan, touted by the *National Enquirer* as "The World's Most Successful Psychic," has made some startling predictions over the years. He was wrong in his visions of the Iran crisis of a couple of years ago, the Soviets in Afghanistan, U.S. inflation, mortgage rates, the auto industry, J. Edgar Hoover's career, Vietnam, Mount Pelee, Jacqueline Kennedy Onassis, the weather, and dozens of other topics. (See *SI*, Summer 1981.)

The Central Premonitions Registry, run from a post office box in New York City by Robert Nelson, has extolled the virtues of Vaughan as its leading success. Perhaps such an assertion should be judged by simple true-or-false standards. That in itself would be sufficient to show that Vaughan is about as "psychic" as a turnip. In addition to his numerous other total failures, in May of 1971 this seer predicted, firmly and without reservations, that Ted Kennedy would be elected president of the United States in 1976.

He also told enraptured believers that a spacecraft "in the shape of a gigantic sun," peopled by folks who "will be able to assume any shape they like," would land on earth before 1976. It would be "controlled by some form of super-intelligence" said Vaughan.

Numerous inquiries to the Central



Premonitions Registry, where thousands of prophecies are recorded by computer every year, have resulted in no comments concerning the actual track record of Alan Vaughan. I tried to obtain a list of *all* his predictions, so that an evaluation could be made of his real performance. But Nelson declined. He apparently prefers to keep the information in his computer's memory.

A responsive, properly organized agency to perform this service would be welcome, so that the question might finally be answered: Do certain persons really have the ability to see the future beyond chance? Unless such an organization is set up, we may have to depend upon the *National Enquirer* for our data. And that could be the scenario for a comic operetta.

—*James Randi*

Dallas Society To Oppose Pseudoscience Formed

The Dallas Society to Oppose Pseudoscience (DSTOP) was organized this past summer by a group of subscribers to the SKEPTICAL INQUIRER. Many similar groups have been formed recently. In Texas, there are already Austin and Houston groups.

The goals of DSTOP are very similar, on the local level, to CSICOP's. In fact, the formal statement of the primary goal is identical: "To encourage the critical examination of paranormal and fringe-science claims from a responsible, scientific point of view and to disseminate factual information about the results of such inquiries to the scientific community and the public."

DSTOP intends to serve as a source of alternative information for media coverage of the paranormal, prepare fact sheets on critical evaluations of paranormal claims, and organize and conduct educational programs.

The group sent a letter to Dallas-area editors and reporters announcing the group's formation and offering its members' expertise in helping them present the skeptical view on pseudoscience and mystical phenomena.

The group will publish the *DSTOP Newsletter* and has begun a series of monthly meetings. At the August meeting, at Brookhaven College in Dallas, science teacher Ronnie Hastings, one of the organizers of the group, gave a presentation on "Creationism and Dinosaur Tracks in Texas." He showed a new videotape, "The Case of the Texas Footprints," John Cole, executive producer. "I think the videotape turned out very well," Hastings reports. "A 'real' documentary worthy of classroom usage and public showings. Early indications show a large demand for copies." (For information about the videotape contact: Dr. John R. Cole, Department of Sociology and Anthropology, University of Northern Iowa, Cedar Falls, Iowa 50613.)

Members of DSTOP and invited guest lecturers presented the course "Skeptical Survey of Paranormal Claims" this fall in the Continuing Education Division of Brookhaven College.

DSTOP has no formal organizational structure. For further information write: James P. Smith, Science

George O. Abell, 1927-1983

The unexpected death from a heart attack of astronomer George O. Abell on October 6, 1983, shocked friends and colleagues. A professor of astronomy at UCLA since 1966, he was an expert on the organization and structure of clusters of galaxies. Galactic clusters of a particular type were named "Abell clusters," after him. He was widely respected as an astronomy educator. His textbook *Exploration of the Universe,* now in its fourth edition, is the best-selling astronomy text in the country.

What made him special to his students and friends was his enthusiasm for science, his wide-ranging knowledge and interests, his tireless efforts to communicate the values of science, and—even when embroiled in controversial debates over fringe-science claims—his fairness, open-mindedness, and civility. He inspired students and the public about the wonders of astronomy while educating them to the differences between real science and belief systems like astrology.

A founding Fellow of CSICOP, in early 1980 he was elected to the CSICOP Executive Council and the SKEPTICAL INQUIRER Editorial Board. He was very active in Committee activities.

Abell had been scheduled to deliver a paper at CSICOP's international conference on "Science, Skepticism, and the Paranormal" in Buffalo October 27-28. At the meeting, CSICOP chairman Paul Kurtz announced that the entire conference, by decision of the Executive Council, was dedicated to the memory of George Abell. We will publish announcements of a George Abell lectureship and further words from friends and colleagues in a future issue.

—*K.F.*

Bart Bok, 1906-1983

The death of astronomer Bart J. Bok in August was a loss not only to the world of astronomy, where he held eminent status, but to CSICOP, which he helped found. Bok, professor emeritus at the University of Arizona and former director of the Steward Observatory, died at his home in Tucson at the age of 77.

Bok was an expert on our Milky Way galaxy. His classic book *The Milky Way*, written with his wife Priscilla, who died in 1975, had been published in its fifth edition in 1981. Bok was a widely respected astronomer, known also worldwide for his lively and witty talks and lectures. He was a member of the National Academy of Sciences and in 1982 won the American Astronomical Society's Henry Norris Russell lectureship, one of the highest honors in astronomy. The same year he also received the Klumpe-Roberts Award from the Astronomical Society of the Pacific for outstanding contributions to the public's understanding of astronomy.

Bok coauthored the 1975 statement "Objections to Astrology," signed by 192 leading astronomers, including 19 Nobel Prize winners. The statement said there is no scientific foundation for the tenets of astrology. The enormous worldwide public and scientific reaction to the statement helped lead to the formation the next year of the Committee for the Scientific Investigation of Claims of the Paranormal. Bok was one of the founding Fellows.

—*K.F.*

Division, Brookhaven College, Dallas, TX 75234.

—*K.F.*

The Northwest Skeptics: Statement of Purpose

The Northwest Skeptics has been formed as an informal group of skeptics residing in the Pacific Northwest. The purpose of the group is to create a body of concerned citizens with the potential to counteract some of the spread of counterfeit science within the Northwest.

Northwest Skeptics is a nonprofit organization concerned with the present proliferation of fake science in publications and on television and radio. Specifically, it is concerned about the paranormal in regard to astrology; UFOs; ancient astronauts; pyramid power; ESP and psychic phenomena; tabloid science; Velikovsky; biorhythm theory; water-witching; astral projection; the Bermuda Triangle allegations; Bigfoot; perpetual motion machines; and anti-evolutionary science.

Northwest Skeptics is also concerned with health fraud and bogus medical claims, especially when they are manifested in the form of fake science.

To counter the claims of the promoters of pseudoscience and paranormal beliefs, Northwest Skeptics seeks to:

1. Create and maintain a roster of concerned skeptics in the Pacific Northwest.

2. Collect public information about claims of paranormal events and the people who claim to have paranormal abilities. Also to collect information on a regional basis about promoters of paranormal events and activities.

3. Disseminate information to individuals on the mailing list about pseudoscience activities and "paranormal" events so that they might be better informed.

The Northwest Skeptics' concern as a group is only with counterfeit science claims. Religious and philosophical ideas are not the concern of the group as a whole. No one may speak for the group, but individuals are encouraged to speak out on their own.

Those interested or seeking information may write to: Michael R. Dennett, Chairman, 4927 S.W. 324th Place, Federal Way, WA 98003; or John Merrell, Oregon-Idaho Coordinator, 4885 S.W. 152nd Ave., Beaverton, OR 97007.

—*Michael Dennett*

The Edges of Science

Physicist Rolf Sinclair, National Science Foundation, is arranging a symposium on "The Edges of Science" at the annual meeting of the American Association for the Advancement of Science in New York City, May 24-29, 1984.

Its intent, Sinclair says, is to try to deal with several selected topics that are right at the edges—not necessarily the frontiers—of science. Here is his provisional synopsis, in part: "The rest of the AAAS meeting will deal with what is unquestionably science. Here we will look at the edges of science, where there is clear disagreement about (1) whether there are phenomena to be investigated, and (2) whether the tools of science can yield anything. We exclude topics that are beyond the edge, and by scientific standards are not even wrong (phrenology, 'creation science,' classical astrology, the theses of Velikovsky, and so forth), and similarly exclude technical arguments within science (such as the existence of black holes). We

will focus on three topics that are sharply debated at the edges of science."

The three topics (subject to some revision between now and then): the existence of "paranormal" phenomena involving the human mind in yet-unexplained modes, the value of searches for extraterrestrial intelligence, and the worth of some speculations in physics concerning such ideas as faster-than-light particles. Watch the pages of *Science* for further details about the AAAS program.

—*K. F.*

Batir, The 'Talking' Elephant

Thomas A. Sebeok, chairman of the Research Center for Language and Semiotic Studies at Indiana University, has been inundated with inquiries about news reports from the Soviet Union of an alleged talking elephant called "Batir." He sent the following "noncomment about what is not news" to the Skeptical Inquirer. *His original title for it was "Stakhanovite," because* Batir, *a word of Mongolian derivation, means "hero." A "Stakhanovite," he explains, in current Soviet parlance is a hero of the working class.—Ed.*

From the Associated Press: "Batir, a baby elephant at the Karaganda Zoo, talks—and zoologists have tape recordings to prove it, the official press agency Tass said yesterday .... He puts his trunk in his mouth and you can hear what sounds like a low male voice."

From the zoo in Karaganda,
Trumpets Soviet propaganda:
Sauce for goose is sauce for gander!

The Kazakhstan ungulata,
Just like Lana in Atlanta,
Talk while taking their siesta.

In the East-West gabfest derby
Batir (orphaned as a baby)
Tapes recordings—oh well, maybe.

"Zookeeper Nikolai Ivanovich Yepifanovski said he had no tape recording..."

—*Thomas A. Sebeok*

Of Pagination and Pages

Readers may note that we have begun continuous pagination with the current volume of Skeptical Inquirer. This style, standard among most scholarly publications and used by many popular periodicals as well, more readily serves the purposes of indexing and of bibliographies mentioning *SI* articles. Beginning with the current Volume 8, an unambiguous reference to any *SI* article need only contain the volume and page numbers. While we are on the matter of pagination, we hope that readers will also have noticed that we have increased the number of pages in several of our recent issues, including this one. The increased size of the Skeptical Inquirer has been made possible by the continuing positive response of subscribers and readers.

—*K.F.*

MARTIN GARDNER

Notes of a Psi-Watcher

Magicians in the Psi Lab: Many Misconceptions

Harry Collins, a University of Bath sociologist, is best known for his extreme relativistic philosophy of science (see my review of *Frames of Meaning*, which he coauthored, in the Fall 1983 issue of *Free Inquiry*), and for having caught a group of spoon-bending children at cheating. The *New Scientist* (June 30, 1983) printed his "Magicians in the Laboratory: A New Role to Play," in which he discusses what he calls the "vexed relationship" between magicians and psi researchers. His article contains many misconceptions about magic; but, before detailing them, first a sketch of his views.

Randi's recent Project Alpha, Collins writes, has reminded us again of how easily psi researchers can be hoodwinked. Because the history of paranormal research has been riddled with fraud, Collins wisely recommends that, no matter how innocent a subject may appear, experiments must be designed on the assumption that the subject is "a notorious cheat." Unfortunately, he adds, completely fraud-proof tests are impossible because there is no way to anticipate new methods of cheating. Since magicians know standard ways, they can be enormously useful as advisors. But because they are not much better than nonmagicians in spotting new methods they are of little value as observers.

He feels that magicians should not be allowed to monitor experiments because they are usually unfriendly toward psi research and have a vested interest in seeing psychics discredited. Collins doesn't mention the belief of most parapsychologists that hostile observers inhibit psi phenomena, but even aside from this he thinks magicians would have a damaging effect on experiments if they were allowed to monitor them.

How, then, can conjurors help? One way, Collins says, is by breaking their code of secrecy and explaining to researchers how cheating can be done. If magicians are unwilling to do this, they should serve as "protocol breakers," by demonstrating the same paranormal phenomena under the same controls applied to the psychic. If they fail to break the protocol, this "would act as a certificate of competence in experimental design."

Misconception 1: Collins fails to distinguish stage performers from magicians who specialize in close-up magic. Throughout his article he repeatedly refers to "stage magicians" and "illusionists." The distinction is vital, because the methods used by psychic charlatans have almost nothing in

common with stage magic. Although psychics like Uri Geller and Nina Kulagina may use a few concealed "gimmicks" (magnets, "invisible" thread, nail writers, palmed mirrors, and so on), for the most part they perform close-up magic that requires no apparatus.

Some stage magicians are knowledgeable about close-up magic, but not necessarily so. A stage performer is essentially an actor playing the role of a magician, relying for his miracles on costly equipment designed by others. Any good actor could easily take over Doug Henning's role in the Broadway musical *Merlin*, for example, and the stage illusions would work just as well. It is important for psi researchers to know this. Otherwise they might seek the help of a prominent stage performer who has less knowledge of close-up magic than thousands of amateurs.

Misconception 2: Collins is persuaded that magicians are not much better than scientists in spotting new ways to cheat. He concedes that "skilled practitioners of deception" may be better than scientists in seeing loopholes develop in an experiment, but he adds, "I think it would be hard to demonstrate this."

On the contrary, it is easy to demonstrate. Collins could convince himself of this simply by accompanying someone like Randi to a magic convention at which dealers demonstrate new tricks for the first time and see how he compares with Randi in figuring them out. It is true that magicians sometimes fool other magicians, but not often and not for long. The "magician's magician" who enjoys inventing tricks to fool his colleagues bears no resemblance to the psychic charlatan. The charlatan is usually a mediocre performer who has hit on some crude methods of deception all his own—methods that are transparent almost at once to any knowledgeable close-up magician who sees the charlatan perform.

When new tricks come on the market, dealers like to advertise them in magic periodicals with glowing descriptions that seem to rule out all standard methods. Magicians are often extremely good in guessing the modus operandi from the ad, without even seeing the trick performed. Of course, if they actually saw the trick demonstrated, it would be enormously easier. And if they saw it more than once, it would be a rare trick indeed that would resist unraveling.

A few years ago my friend Persi Diaconis, a statistician who is also a skilled card magician, telephoned to say that a certain Oriental conjuror was appearing that night on television and would be performing a sensational new trick with a silk. The silk is twisted like a rope, cut in half, the halves rolled into a ball, and when unrolled, the silk is restored. Persi had not yet seen the trick, but had heard it described by puzzled magicians. After discussing several methods, we finally agreed on what we thought was the most probable technique. When we watched the show that night, our hypothesis was verified. The point is that we guessed the method before we even saw the trick.

Sometimes it is impossible to guess from a description. When I was a young man in Chicago, Joe Berg's magic shop advertised a miracle called the "none-such ribbon effect." A ribbon, the ad said, is cleanly cut in half and the ends widely separated. After the restoration, the ribbon is the same length as before. No ribbon is added or taken away, and no adhesives, magnets, or other secret aids are needed. I was unable to guess the method. A few days later, in Joe's shop, I asked him to demonstrate the trick. As soon as he did, I understood.

I am free to give away the secret because this clinker of a trick has never been performed by a magician, and never will be. The "ribbon" proved to be crepe paper. It was genuinely cut, the halves folded into a parcel, one half palmed away, then the other half was pulled out of the fist in such a manner that it stretched to twice it's original length!

New methods of deception are invariably based on ancient general principles that any experienced conjuror knows in his bones. No magician could have witnessed the none-such ribbon effect without seeing at once how it worked, even though no one had ever before thought of restoring a ribbon in this peculiar way. Scientists are helpless in the hands of a clever charlatan, whether he uses old or new methods, but knowledgeable magicians are far from helpless regardless of how unorthodox the new methods may be. Their ability to detect fraud by novel techniques is vastly superior to that of any investigator without a magic background, even if he has a high I.Q. and a Nobel Prize.

Misconception 3: The suggestion that magicians should advise but not observe is naive. Until a magician actually sees a clever psychic perform, he is in a poor position to know what controls should be adopted. It is no good to rely on a scientist's memory of what he saw, because such memories are notoriously faulty. Good magic is carefully designed to conceal a trick's most essential aspects, and even what a magician says is planned to make a spectator forget crucial details. The medium Henry Slade, for example, was once tested by a group of scientists. No one recalled afterward that a slate had "accidentally" slipped out of Slade's hands and dropped on the rug. Yet it was at just this instant that Slade switched slates. Magicians are alert to

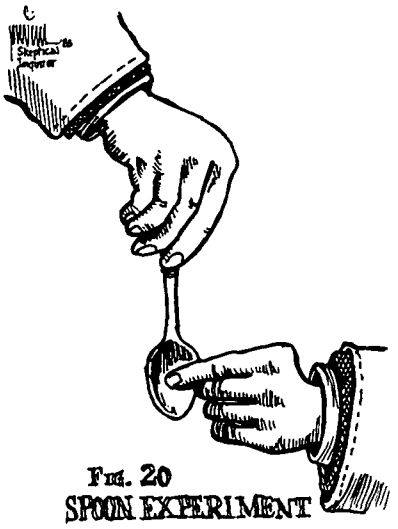


FIG. 20
SPOON EXPERIMENT

such misdirection. Nonmagicians are not. Incidentally, in Slade's day many scientists were totally convinced that his slate writing was genuine. Is it not curious that chalked messages appearing on slates have disappeared from the repertoire of modern psychics?

Conjurors obviously can be of great help in designing protocols, but if a charlatan is using new methods, or performing a feat never performed before (such as Ted Serios's trick with Polaroid cameras), it is almost essential that he be observed initially by a magician. True, in many cases a committee of magicians may, on the basis of a careful, accurate description of a psychic's performance, figure out how the psychic could be cheating and suggest adequate controls. In some cases, however, the memories of psi researchers are too vague and flawed to permit such reconstruction. Only by seeing the psychic do his or her thing can the magician make intelligent guesses and not waste the researcher's time by suggesting twenty different ways the psychic could have cheated. Of course it is essential that a psychic not know a magician is present. Psi powers have a

way of evaporating even if the psychic only suspects a magician may be present. The reason D. D. Home was never caught cheating was that Home took extreme precautions to perform miracles only in the presence of persons he knew to be untrained in magic.

Suppose a club suspects a member of cheating at card games. How should members go about catching him? It is folly to ask an expert on card-swindling to design precautions, because there are thousands of ways to cheat. I can show you fifty ways to false shuffle a deck, and as many ways of getting secret peeks of top and bottom cards. Persi can demonstrate twenty different ways to deal the second card instead of the top one, some by using only one hand. There are dozens of subtle ways to mark certain cards in the course of a game. Nor is it feasible for a card "mechanic" to give club members an adequate course in cheating. It would require many months. Obviously nothing is gained by having the mechanic sit in on games if the hustler knows who he is. And how can club members be sure that the hustler doesn't know?

The fact is that there is only one good way to settle the matter. A trap must be set. Let the expert observe a game secretly, either through a peephole or a carefully constructed one-way mirror. This is such a simple way to trap a cheat that one of the great marvels of modern psi research is that the only researchers of recent decades who have used it seem to be Collins and the parapsychologists in Dr. Rhine's laboratory who set a peephole trap for their director, Walter Levy.

Consider the sad case of John Hasted, a Birkbeck College physicist who firmly believes that children can paranormally bend paperclips inside a glass sphere, provided the sphere has a hole in it and the children are allowed to take it into another room and do their psychic bending unobserved. A ridiculously easy way to settle this hypothesis would be to videotape the youngsters secretly, the way Collins did. If Hasted ever tried this, I haven't heard of it. It is passing strange that parapsychologists who become convinced that psychics can bend metal seem absolutely incapable of devising a simple trap. This augurs ill for the hope that they will ever seek the aid of magicians in any significant way.

Misconception 4: It is naive to suppose that most researchers are capable of setting up controls for a magician that are identical to those imposed on a psychic in the past experiment. If a videotape of an entire experiment is made, without breaks, it might be possible; but even here there are major difficulties. Take the case of Ted Serios. Suppose a tape had been made that showed Ted holding his "gizmo" (rolled piece of paper) in front of the camera lens and a picture of the Eiffel Tower appearing on the film. A magician asked to break protocols would ask: Was the gizmo examined immediately before the event was recorded? The researcher may honestly say yes; but unless a magician had been there, there is no way to rule out the possibility that Ted palmed an optical device into the gizmo *after* it had been examined. Even if the tape showed the gizmo being examined, if Ted were careful of camera angles nothing on the film would reveal palming. Similarly, an adequate tape would have to show the gizmo examined immediately after the camera snapped, and in such a way that it ruled out Ted palming a device out of the gizmo.

Jule Eisenbud, who wrote an entire book about Ted, has repeatedly challenged Randi to break his protocols. Why has Randi refused? Because Eisenbud, having learned from magicians how Ted could have cheated, now

wants to impose on Randi controls that were never imposed on Ted. Magicians think Randi has already broken Eisenbud's protocols; but Eisenbud does not think so, and neither do many top parapsychologists. Researchers typically demand of magicians that they repeat past miracles under conditions radically unlike those that prevailed when the "psychic" produced them. The fact is that there is no way to make sure controls are identical unless a magician has been there to see the psychic perform. Memories of researchers untrained in magic are far too unreliable. Of course one could ask that a magician and a psychic produce a paranormal event under identical controls, supervised by outsiders, but what psychic charlatan would ever agree to such a test?

Misconception 5: Collins makes much of his belief that magicians refuse to give away methods used by psychics. They do indeed refuse to give away secrets of tricks by which professional magicians earn a legitimate living, including entertainers like Kreskin who pose as psychics; but at the low level of prestidigitation on which psychics operate, magicians have never hesitated to give away secrets.

As Collins knows, Houdini constantly exposed the methods of fraudulent mediums. Randi has tirelessly explained the methods of Uri Geller and other mountebanks. The three magicians who investigated Serios for *Popular Photography* (October 1967) explained in detail how to produce all of Ted's effects with an optical gimmick. One of the three, Charles Reynolds (who designs illusions for Doug Henning and other stage performers) is certainly not going to tell Collins how Doug vanished an elephant or how David Copperfield made the Statue of Liberty disappear, but he minds not at all telling any parapsychologist willing to listen how Geller bends keys. Surely Collins knows about my *Science* article (reprinted in *Science: Good, Bad, and Bogus*) that exposes the secrets of eyeless vision, except for Kuda Bux's method—and that was because Kuda made his living with it. Surely Collins knows of the two books by Uriah Fuller, on sale in magic stores, that give away all of Geller's basic techniques. Randi and I will happily tell anyone how Nina Kulagina uses invisible threads to move matches and float table-tennis balls, and how Felicia Parise could have moved a pill bottle for Charles Honorton. How Collins got the impression that magicians are reluctant to explain secrets of psychic fraud is beyond me. Even the secrets of legitimate magic are readily available to any psi researcher who cares to buy a few dozen modern books on the subject.

Misconception 6: Collins actually thinks that if magicians were routinely asked to observe psychic wonders it would wreck science. It is not just that fraud is possible in all experiments and there aren't enough magicians to go around; but psi research, like all research, is a vast social enterprise extending over long periods of time. It simply would not work, says Collins, if hostile magicians were perpetually underfoot.

What Collins ignores here are two all-important distinctions. One is between the operations of nature and human nature; the other is between ordinary and extraordinary phenomena. As I like to say, electrons and gerbils don't cheat. Even among psychics, very few claim such fantastic powers as the ability to bend metal by PK, translocate objects, and levitate tables. It is only when exceedingly rare miracles like these are seriously investigated that it is essential to call in an expert on the art of close-up cheating.

And it is essential in many cases that the expert be there to watch, not just give advice at some later date to researchers who, more often than not, in the past have paid not the slightest attention to such advice.

Some of the most widely heralded miracles are one-time events that the psychic never does again, such as the time Geller translocated a dog through the walls of Puharich's house, or Felicia moved a pill bottle, or Charles Tart's sleeping subject guessed the number on a card that Tart had put on a shelf above her line of vision. Since no expert on fraud was there as an observer, no one should take seriously the claims of Andrija Puharich, Charles Honorton, and Charles Tart that those events were genuine. Who can take seriously today J. B. Rhine's claim that Hubert Pearce correctly guessed 25 ESP cards in a row? Only Rhine observed this miracle, and there are 20 ways Pearce could have cheated. When a psychic produces events this extraordinary, it is impossible to imagine that he or she would ever submit to retesting under controls recommended by a magician, let alone being observed by a magician during the retesting.

In sum: if parapsychologists seeking the aid of magicians tried to follow Collins's naive guidelines, it is easy to predict the outcome. In a word—zilch. •

ROBERT SHEAFFER

Psychic Vibrations

The International Society of Cryptozoology (ISC), the most prominent of scientific monster-hunter organizations, has published in its annual journal, *Cryptozoology*, the most significant cryptoscientific paper of the decade. An article by Roy Wagner, head of the anthropology department at the University of Virginia, tells of the scientific evidence for creatures the natives of New Guinea call *ri*—in layman's terms, mermaids. Dr. Wagner describes the many eyewitness accounts of "an air-breathing mammal, with the trunk, genitalia, arms and head of a human being, and a legless lower trunk terminating in a pair of lateral fins, or flippers." Wagner's article, subsequently reprinted in the August 1983 issue of *Fate* magazine, tells how some New Guineans claim to see the *ri* almost every day. In fact, Wagner himself believes he may have seen the creature, but unfortunately it kept its distance from the learned professor, presumably so that its existence would still remain in doubt.

It is said that several years ago a young female *ri* was caught in the net of native fishermen. One witness left the creature on the beach to go fetch additional witnesses, but upon his return was disappointed to find that the boys left guarding the beautiful young mermaid, shamed by her nakedness, let her crawl back into the water. The *ri*, despite living in a state of nature, are said to be ashamed of their nakedness and attempt to cover up their genitals when observed by humans. By far the most shocking part of Wagner's article is his account of the natives' deliberately killing the *ri* for food. A number of men he interviewed claimed to have been present at the butchering of a *ri* and to have eaten *ri* flesh. In fact, the meat of the *ri* is said to be sold on the open market in towns like Namatanai. Wagner does not explain why he did not try to go to this town and buy some specimens for analysis.

While some might dismiss stories of creatures like the *ri* as mere native superstition, Dr. Wagner does not. "I don't think the credibility of some of my informants can be lightly dismissed," says he. "That, coupled with the general concurrence on many features of the *ri*, strongly suggest that some such creature exists and that it remains unknown to science." He closes with the suggestion that an expedition "specifically directed toward ascertaining the existence and nature of the *ri* may be a worthwhile venture."

The first to rush off to Papua New Guinea to check Wagner's findings was veteran monster-chaser Jon Erik Beckjord, head of Project Bigfoot, and also of a new organization called the Na-

tional Cryptozoological Society, which people keep confusing with the *international* society, founded earlier. Failing to see any *ri*, Beckjord concluded that no unknown animal was actually being seen there. He says the same people Wagner talked to identified from photos that they were dugongs they had killed, butchered, and eaten, not mermaids.

Next on the scene was the ISC's own *ri*-hunting expedition, which included Wagner himself and Richard Greenwell, secretary-treasurer of the ISC, who two years earlier had gone to the Congo in search of Mokele-Mbembe (in layman's terms, a dinosaur: see *SI*, Summer 1982, p. 16, and Summer 1983, pp. 77-78). Greenwell reports that they *did* see the *ri*, although attempts to catch it, photograph it up close, or even get a good look at it were unsuccessful. The closest they could get to the animal was 50 feet, because it was such a fast swimmer. Greenwell believes that the animal they saw cannot be identified as any known fish or sea mammal, although he does not suggest that it is literally a mermaid. He believes it is probably an unknown species of sea mammal. More investigation, and possibly further expeditions, will be forthcoming.

It seems that Nessie and Bigfoot may now have a new cousin, the easy-to-see-but-hard-to-catch *ri* of the islands off Papua New Guinea. Dr. Wagner's paper on the "mermaids" of New Guinea may well be the most significant and influential contribution to cryptozoology since Sir Arthur Conan Doyle's 1921 classic, *The Coming of the Fairies*.

* * * * *

An interesting experiment was recently performed on the TV show "A.M. San Francisco" on KGO (ABC-TV in San Francisco, July 20, 1983). Three people attempted to give "psychic readings" for a woman standing behind a screen. They could not see her; she had no idea who they were, nor did they know anything about her. She was to select which of the three "psychic readings" was most accurate. The audience could see the woman shaking her head no as "psychics" 1 and 2 gave their readings. She started nodding yes when the third reader began to speak.

The host of the show asked her which reading she thought was the most nearly correct. "Number 3 is accurate," she replied. This must have keenly disappointed the other two, Alan Young (No. 1) and Barbara Mousalam (No. 2), because the third alleged psychic was actually Robert Steiner, chairman of the Bay Area Skeptics, who before the experiment had been explaining to the audience the art of "cold reading."

A telephone poll of the viewers was going on during the show. Viewers were to answer yes or no to the question "Can psychics actually predict the future?" Prior to the experiment, the

tally was 63 percent yes and 37 percent no. The final tally, however, shortly after Steiner had proved himself to be even *more* psychic than the professionals, showed only 59 percent yes and 41 percent no, indicating a shift toward skepticism at the very end of the voting.

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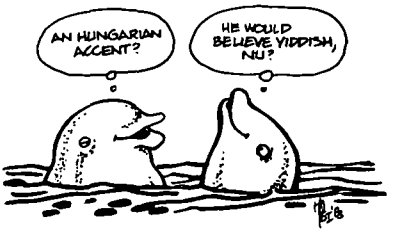
We've all seen the books and articles telling us that dolphins are smart. Some say they may be as smart as humans, or perhaps even smarter. The man who started the whole "cult of the dolphin" more than twenty years ago is Dr. John Lilly, who is now heading up Project JANUS, investigating the intelligence of dolphins at Marine World in Redwood City, California. Using a computerized digitizer to translate human speech into frequencies that dolphins can readily hear, Lilly has been enjoying such remarkable success that not only do his dolphins understand human speech, but they are now answering back—in English. *San Francisco Examiner* science-writer Richard Saltus reports that Lilly says not only that his dolphins speak English clearly but that they speak it with a definite Hungarian accent, which they presumably picked up from one of their trainers. Previous communications between Lilly and his subjects had been limited to ESP. This was actually Dr. Lilly's second contact with a nonhuman intelligence. His book *The Scientist: A Novel Autobiography* tells how he once received a telepathic message that apparently came from the comet Kohoutek.

Now that Lilly has established contact with his dolphins, his current plans are to turn them loose. He feels it is wrong to "run a concentration camp for my friends." This idea, however, has not been warmly received by the owners of Marine World, and in



any case would have to be approved by federal authorities since dolphins are a protected species. Some scientists go so far as to doubt that Lilly is achieving anything at all. "My sense is that it has been a total waste of time and money," said Brown University linguistics professor Bob Buhr, who briefly served as a consultant to the project.

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Recent issues of leading creationist publications have carried articles revealing that "creation science" has a depth and sophistication few have previously suspected. The *Bible-Science Newsletter* of June 1983 carries a long article on the "vapor canopy" that allegedly covered the earth before the Noachian deluge, a review-article about Joseph C. Dillow's book, *The Waters Above*. Dillow's book describes the "thermal vapor blanket capable of precipitating many feet of water which condensed in the recent geological past in 40 days due to volcanic eruption, resulting in a geographically universal flood." The atmospheric pressure before the flood was 2.18 times greater than at present. This may incidentally explain why Noah, normally a righteous man, became drunk with wine almost immediately after disembarking from the ark: Dillow suggests Noah was unaware that the process of fermentation would henceforth proceed much more quickly in the lower atmospheric pressures that then prevailed. The increased concen-

tration of C14 in man's body after the flood may explain why the human lifespan, previously well over 500 years, subsequently shrank to a mere three score and ten. The climate of the post-flood earth was also significantly cooler, thus explaining why "the dinosaurs that Noah presumably took with him on the ark were simply not able to survive in the changed post-flood climate with its cooler climate and severe winters." Lest you shudder at the difficulty that Noah and his kin must have surely encountered in attempting to round up pairs of brontosaurus, plesiosaurus, and tyrannosaurus rex, Dillow suggests that "presumably, Noah would have taken newly born dinosaurs on the ark."

Other articles in the same issue discuss equally provocative matters. Devotees of "hidden crashed saucer" conspiracy tales will be interested in the review of Violet Cumming's *Has Anybody Really Seen Noah's Ark?* This book contains an account of a secret expedition sponsored by the National Geographic Society in the 1960s that found not only the ark but possibly Noah's frozen body as well. Of course this is all being carefully hidden from the public. Similarly, Dr. John D. Morris of the influential Institute for Creation Research reports in the February 1983 issue of that organization's publication, *Impact*, that many witnesses report having seen top-secret photographs of Noah's ark in government files. In fact, says Morris, he is aware of seven sets of secret military photos on which the ark is said to be clearly visible.

The same issue of the *Bible Science Newsletter* also contains a response by the Rev. Walter Lang to an article in the *Humanist* that casts doubt on the supposed human and dinosaur tracks found fossilized together in rocks in Texas. Critics say that the "human" footprints are too large. What they forgot, said Lang, is that before the flood people lived longer, and hence presumably had more time to grow big feet. Critics also charge that the stride suggested by the footprints is too uneven. Again they forget something vital, says Lang: the stride is indeed uneven because the people with the large feet "were attempting to outrun both the flood waters and the dinosaurs." •

Sense and Nonsense in Parapsychology

Parapsychology spans a spectrum from sophisticated skepticism to pro-psi gullibility

Piet Hein Hoebens

> *Parapsychology is indistinguishable from pseudo-science, and its ideas are essentially those of magic.*
>
> *Parapsychology is a farce and a delusion, along with other claims of wonders and powers that assail us every day of our lives.*

These somewhat unflattering remarks are taken from the concluding paragraphs of two recent books in which the pretensions of parapsychology are examined from a skeptical point of view. The first is from James Alcock's *Parapsychology: Science or Magic?*[1] and the second from James Randi's *Flim-Flam!*[2]

It was to be expected that such sentences would provoke the indignation of the parapsychologists—who in fact were quick to point out what they perceived as gross unfairness on the part of both authors. The complaint most frequently heard was something to the effect that both Alcock and Randi have overstated their case by generalizing their (often justified) criticisms of a subset of paranormal claims to the entire field of parapsychology—thereby tarring all proponents with the same brush. It is argued that, in their eagerness to exorcise the demons of the New Nonsense, the skeptics have failed to take into account the differences between "serious parapsychology" and the less than serious variety.

In his witty (and by no means unsympathetic) review of *Flim-Flam!* in *Theta*,[3] Douglas M. Stokes writes: "In fact, almost all of the phenomena and claims Randi critiques in the book would be equally quickly dismissed by any competent parapsychologist as well. Only the lunatic fringe is going to be outraged by Randi's exposure of Conan Doyle's pictures of fairies, the underwater pyramid and road near Bimini, the space voyages of Ingo Swann and Harold Sherman, the Sirius 'mystery,'

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ancient astronauts, 'transcendental levitation,' biorhythms, N-rays, psychic surgery, or the oversexed spirits of Kübler-Ross."

This quote is interesting not only because it reveals what Stokes thinks of several of the best-known practitioners of Future Science but also because it implies the existence of a class of persons deserving the label "competent parapsychologists" and easily distinguishable from the crackpots who believe in the Cottingley Fairies, psychic surgeons, and the cosmic outings of Mr. Swann.

I suspect that both Stokes and the skeptics somewhat oversimplify matters: the skeptics, by underestimating the internal differences within parapsychology; Stokes, by projecting an all-too-neat competent/incompetent dichotomy on the complex and confusing reality of modern psychical research.[4]

It simply will not do to reproach the critics for discussing certain outlandish claims in the context of a critique of "parapsychology" or for attacking "weak" and "unrepresentative" cases, since the "parapsychological community" itself cannot agree on the criteria for "strength" and "representativity." We are faced with a similar problem if we want to decide who does or does not belong in the "community." Several proponents have suggested that membership in the Parapsychological Association (PA) and/or a record of publications in the PA-affiliated journals be regarded as a suitable criterion. However, membership in the PA and a record of publications in the serious journals does not guarantee the absence of the sort of beliefs Stokes thinks characterize the lunatic fringe. In parapsychology, the chaff and the wheat overlap to such an extent that a neutral observer often finds it hard to tell the difference.

This of course does not justify overgeneralizations on the part of the critics. Precisely because parapsychology is an ill-defined field lacking a shared "paradigm," it would be unfair to hold each "parapsychologist" individually co-responsible for everything that is claimed by his or her nominal colleagues.

My purpose in this essay-review is to illustrate the previous points by comparing three recent books written by prominent European parapsychologists. One of these books is a clear refutation of the claim implicit in some critical publications that parapsychology is ipso facto antagonistic to skeptical inquiry. The two other books demonstrate with equal clarity that the sort of parapsychology skeptics rightly find objectionable is *not* confined to the *National Enquirer* and the ad pages of *Fate*.

Martin Johnson

Martin Johnson, the Swedish professor of parapsychology at Utrecht State University, is a somewhat controversial figure in the Netherlands—because local "believers" suspect him of being a closet skeptic. When, around 1973, the university authorities announced their intention to ap-

point Johnson "professor ordinarius," the Dutch Society for Psychical Research, dominated by the redoubtable Dr. Wilhelm Tenhaeff (who, much to his chagrin, had never been promoted from his second-rate status as a "special professor"), initiated an unprecedented and outrageous press campaign against that "Nordic woodchopper" who, because of his "gross incompetence," would "destroy the life's work of the nestor of Dutch parapsychology." (For more about Tenhaeff, see my two-part article on Gerald Croiset in *SI* Fall 1981 and Winter 1981-82.) Newspaper offices were flooded with angry letters. Questions were asked in Parliament. With a few notable exceptions, the Dutch media supported the "genius Tenhaeff" against the intruder from the Lapp tundra. The university was forced to accept a compromise. Johnson was appointed ordinarius but in addition Henri van Praag was appointed "special professor" to guard Tenhaeff's heritage.

Since then, the "special professor" has kept Dutch occultists happy with breathtakingly uncritical books, articles, and lectures on Sai Baba, flying saucers, Rosemary Brown, reincarnation, fairies and leprechauns, Uri Geller, Ted Serios, psychic surgery, and the imminent Age of Aquarius, while Johnson quietly established what has now become one of the most prestigious and respected parapsychology laboratories in the world.

Parapsychologie (originally published in Swedish) is Martin Johnson's first book.[5] It is intended as a general introduction to this controversial field. In refreshing contrast to most such introductions, it contains no pompous statements to the effect that the existence of psi has been demonstrated beyond any doubt and that only blind materialist prejudice

keeps the scientific community from joining the parapsychological revolution.

To the contrary: Johnson agrees with the skeptics that the evidence for psi is weak and ambiguous and quite unable to support the grandiose cosmological claims others have tried to base on it. On the other hand, he believes some of the evidence is sufficiently suggestive to warrant further research based on the reality of psi as a working hypothesis. While Johnson personally is inclined to predict that future investigations will vindicate the psi hypothesis, he insists that the hoped-for breakthrough can only result from applying more rigorous research methods and from exercising more self-criticism.

Johnson agrees with his colleagues that there is considerable empirical support for the claim that something in the nature of ESP and PK (psychokinesis) exists, but he does not believe that this empirical support amounts to anything like proof positive. In a concise survey of the evidence presented hitherto he notes some promising developments (such as Helmut Schmidt's work with random-event generators and some research into psi and personality) but concludes that even with the most sophisticated experiments potentially fatal problems remain. In this context, he is remarkably candid about the role unconscious manipulation and deliberate fraud may play in his field. In this book, we are spared the ritual complaints about C. E. M. Hansel's supposed pig-headedness. Instead, Hansel's critique is welcomed as an interesting contribution to the debate.

There is an intelligent discussion of the replicability problem that has bedeviled parapsychology ever since its inception. Johnson points out that the concept of a "repeatable experiment" is more complex than is often assumed by critics. In mainstream science, opinions wildly differ as to the level of replicability required for academic respectability, whereas history has shown examples of perfectly repeatable observations based on collective misconceptions. However, Johnson does not invoke these methodological subtleties in order to excuse parapsychology's shortcomings. He is quite firm in stating that replicability in parapsychology is insufficient, especially given the extraordinary nature of the claimed phenomena.

A fairly long chapter deals with the numerous attempts to make theoretical sense of psi. Johnson concludes that almost all such attempts precariously depend on "more or less fantastic auxiliary hypotheses" and usually raise more questions than they answer.

In a hilarious chapter on "Miracle Men" Johnson practices some hard-line debunking at the expense of the Uri Gellers and the Sai Babas—and of the parapsychologists who have uncritically endorsed these psychics. "Personally, I am amazed that an intelligent and honest man such as Erlendur Haraldsson [the Iceland parapsychologist who published some remarkably naive eyewitness-accounts of the Indian saint's feats] seriously considers the possibility that Sai Baba, or the Babas of lesser caliber, could be anything but ordinary frauds," he writes.[6]

The section on Uri Geller and other metal-benders is devastating—and should make some of Johnson's fellow parapsychologists blush with embarrassment. At the occasion of the 1976 Utrecht parapsychology conference, which he hosted, Johnson invited a Swedish amateur magician, Ulf Mörling, to demonstrate "psi" for the benefit of the assembled participants. From the outset, Mörling clearly stated that he did not claim any paranormal ability whatsoever and that all his feats were based on conjuring tricks. Alas, Johnson writes, after the performance was over several prominent parapsychologists became "skeptical" and started to speculate seriously about whether Mörling might be a genuine psychic without being aware of it. The PA member who most staunchly defended this theory was—the reader will have guessed—Ed Cox, former associate of the late Dr. Rhine and a self-proclaimed foolproof expert on magic.

Johnson is appalled by the credulity some of his colleagues exhibited at the height of the Geller psychosis. He believes that this greatly contributed to the skeptical backlash of the second half of the seventies.

Johnson is not overly optimistic about his field's immediate outlook: "I think that parapsychology is presently in a critical stage. More unambiguous and robust findings will have to be presented if we want to justify its continued presence at the universities." And: "Time will tell whether psi research will bring about a conceptual revolution—or will languish in the backyards of the established sciences."

Having read *Parapsychologie* several times I am struck by the remarkable similarities between Martin Johnson's views and those of Ray Hyman, the skeptical psychologist who, among other things, is a member of the Executive Council of CSICOP. The book hardly contains a single statement to which a skeptic could reasonably object—unless he resorts to the a priori argument that the inherent absurdity of the concept of psi renders any serious attempt at investigation a waste of time.

Hans Bender

Professor dr. med. dr. phil. Hans Bender is a big name in international parapsychology. Arguably, he is the most renowned representative of the field in continental Europe. His credentials are impressive. He is a (now retired) professor at the Albert-Ludwig University in Freiburg, a former president of the PA, founder of the serious *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie*, a onetime host to international conferences, a contributor to John Beloff's state-of-the-art volume, *New Directions in Parapsychology*, and author of numerous papers published in reputable journals. By any definition, he belongs to the core of the international parapsychological community.

Bender too is a controversial figure at home. While thousands of Germans adore him as a prophet of the New Age of post-mechanistic spitituality, the highbrow media in West Germany derisively refer to him as

"der Spukprofessor." Bender has frequently and bitterly complained that he has been the victim of unfair criticism. He certainly has a point here: The average postwar German skeptic is hardly noted for polemical subtlety. Bender's enemies have mercilessly exploited an embarrassing incident that took place a few years ago. (The magazine *Der Spiegel* alleged that, for three decades, Bender had falsely sported a "dr. med." degree. The professor was unable to produce evidence to the contrary. Recently, he obtained a genuine medical degree on the strength of an extremely curious thesis on poltergeists.) All too often, they have indulged in ad hominem attacks and in misrepresentation of the claims they had set out to debunk. The anti-parapsychological writings of the Mannheim jurist Dr. Wolf Wimmer in particular contain a number of deplorable examples.

A closer examination of Bender's publications, however, may to a certain extent explain why parapsychology continues to arouse such hostile feelings among German rationalists.[7]

Like Martin Johnson's *Parapsychologie*, Hans Bender's *Unser sechster Sinn* ("Our Sixth Sense"), a revised and enlarged edition of which became available in 1982, is a general introduction intended for a lay public.[8] The authors of such books bear a special responsibility, since they must assume that, for the average reader, *this* book will be the most authoritative source of information on parapsychology he will ever be exposed to. General introductions, especially if written by university professors, decisively influence opinions and beliefs. That is why we may demand that the authors carefully refrain from overstating their case and give a fair presentation of the pros and the cons. Johnson's book adequately meets this criterion, as did a small number of earlier publications, such as those by West and Beloff.[9,10] *Unser sechster Sinn*, I am afraid, does *not* belong in this category. The purpose of this book is propagandistic rather than informative. The reader is urged to accept Bender's beliefs as scientifically established facts and is not alerted to possible rational objections to the author's views. The weaker points of parapsychology are carefully glossed over. Instead, we are regaled with the success story of a triumphant new science with revolutionary implications for our views of God, Man, and the Universe.

I believe that I am not the only reader to gain the impression that Bender basically is not interested in evidence, except when it can be used to illustrate a transcendent Truth that he personally would be happy to embrace without any evidence at all.

From Bender's discussion of so-called spontaneous phenomena, the casual reader will never guess why informed critics (including several prominent parapsychologists) resolutely refuse to accept such anecdotes at face value. Examples of seemingly perfect cases that were later conclusively exposed as due to error or fraud are conspicuously absent, although such examples are essential for understanding the controversial status of psi. The "normal" psychological factors that may lead to an "occult" inter-

pretation of nonparanormal events are hardly mentioned at all. Alternative hypotheses to account for the data are either ignored, dismissed, or presented as applying only to an untypical subset of cases. I have reasons to take Bender's anecdotes with a grain of salt. The fact that he repeats the long-discredited claim that Jeane Dixon "predicted the assassination of John F. Kennedy" should suffice as a warning.

A similar bias is apparent in the sections on the mediumistic phenomena that were the main subject of pre-Rhine psychical research. Eusapia Palladino is discussed without any mention of the numerous occasions she was caught in fraud. The exceptionally important writings by the great German skeptics who flourished in the first decades of this century are ignored, except in one instance where Bender gives the wrong author for the chapter on the Schneider brothers in the classic "Drei-Manner-Buch"[1] and dismisses the critics' arguments without even telling us what these arguments amounted to.

The classic laboratory experiments of the Rhine era are dealt with in a similar spirit. Hansel's criticisms of the celebrated ESP tests with Hubert Pearce are summarily dismissed as having been conclusively refuted by Honorton and Stevenson. The naive reader gains the impression that there never was any *serious* dispute over the work at Duke University.

Inexcusably, Bender has chosen to leave the section on Soal's experiments with Basil Shackleton virtually unchanged in the 1982 "revised edition." These experiments are presented as having provided extraordinarily strong evidence for ESP. Only in a later chapter—in a totally different context—does Bender casually remark that "tragically, doubts later arose as to the accuracy of some of Soal's protocols." Given the well-nigh incontrovertible evidence that this psychical researcher faked the most sensationally successful experiment in the history of parapsychology, Bender's discussion of Soal's work is—to put it mildly—utterly misleading.

The sections on the Rhine/Soal type of ESP and PK experiments performed in Freiburg present us with problems of a different nature. Bender claims fantastically significant results, but such claims are meaningless unless complete reports are available for skeptical scrutiny. The exact conditions prevailing during these experiments are anybody's guess. Inquiries in Germany revealed that no detailed reports were ever published. We have no means of knowing to what extent possible skeptical counter-hypotheses are consistent with the data. Could the significant results of the Achtert-Zutz experiments have been brought about by a coding system? Could the high-scoring subjects in the Pinno-Czechowsky experiment have filled in their scoring sheets *after* the random-event generator had produced the targets? Bender cannot blame the critic for being suspicious, especially since he himself compares some of these Freiburg experiments to the Soal-Shackleton series (p. 62).

In the (new) section on Gellerism, Bender alludes to attempts on the

part of certain anonymous magicians to expose the Israeli metal-bender as a trickster, but he typically fails to provide the sort of details that might persuade the intelligent reader to agree with the prosecution. His conclusion is that Geller may on occasion have resorted to trickery ("as do almost all mediums when they are unsuccessful") but that "in *The Geller Papers* the physicist Charles Panati has published experimental results that *prove* psychokinesis." (Emphasis added.) No mention is made of the devastating criticisms of *The Geller Papers* by, among others, Martin Gardner and Christopher Evans.[12] We are not even allowed to know *which* "experimental results" Bender thinks have proved Geller's PK.

The metal-bending star-subject at the Freiburg institute—the Swiss Silvio M.—is introduced as a genuine psychic who has been able to perform his feats while observed by an acquaintance who is a member of the Berne magic circle. Bender does *not* tell us that Silvio was unable to demonstrate any PK while observed by the prominent German magician Geisler-Werry and by Freiburg's own trick expert Lutz Muller or that he was caught cheating on several occasions. While I do not deny that there may be an as yet unexplained (as opposed to inexplicable) residue in the Silvio evidence, I object to Bender's suppressing facts that might cause his readers to doubt the authenticity of the Silvio phenomena.[13] Similarly, I object to Bender's uncritical endorsement of Ted Serios's "thoughtography." *Unser sechster Sinn* is completely silent about the serious doubts that have been raised by skeptics and critical parapsychologists alike concerning the paranormality of these feats.

The sections on Bender's favorite clairvoyant—the late Gerald Croiset of Holland—are nothing short of disastrous. Bender credits Croiset with having paranormally located the remains of a missing Scottish woman in the early seventies, whereas in fact her body has never been found. He further enthusiastically relates the astonishing results of the 1953 "chair test" in Pirmasens, where Croiset is supposed to have given a highly accurate precognitive description of two persons who, at a specified moment in the future, would happen to be seated in specified chairs. Not only is Bender's "paranormal" interpretation of this case absurd; his account also abounds with factual errors. Bender cannot claim ignorance in this instance, as he himself had been the chief experimenter, and the "raw data" are kept at his own institute. Pirmasens is one of Bender's prize cases, and he has referred to it in numerous books, articles, and lectures. My own investigations into this alleged miracle have raised serious doubts about Bender's credibility as a reporter of unusual events.[14] In his evaluation of the 1969 "transatlantic chair test" U.S. parapsychologist Jule Eisenbud made with Croiset, there is a curious discrepancy with the original 1972 edition. In 1972, Bender called this experiment "successful." In 1982 he calls it "controversial." What has caused Bender to change his mind? We are not allowed to know. Needless to add that Bender refrains from informing his readers of the reasons many of his fellow parapsychologists

now regard the late Wilhelm Tenhaeff, Croiset's chief chronicler, as a disgrace to the profession. Instead, Tenhaeff is hailed as one of the pioneers of psychical research.

The section on poltergeist phenomena naturally gives pride of place to the celebrated Rosenheim case of 1967-68, which was investigated by Bender and his team. Rosenheim is generally considered one of the most striking ghost stories of all time, and not without justification. From the available material it seems difficult to think of a nonparanormal scenario to account for the data without leaving an uncomfortable number of "loose ends."

However, the case is certainly not as strong as Bender suggests. No full report of the investigations has ever been published, so we are in no position to check to what extent the parapsychologists have been successful in excluding naturalistic explanations. A case in point is the heavy (about 175 kilograms) cabinet that is said to have been moved 30 centimeters away from the wall by a paranormal agency. It is implied that Annemarie S., the young office-girl who was seen as the focus of the disturbances, could never have achieved this by normal means. However, in Bender's accounts one searches in vain for the answers to such essential questions as: Did anyone witness the actual movement of the cabinet? Did the cabinet weigh 175 kilograms when empty or is the weight of the files that were kept there included? Did the cabinet have handgrips? What experimental evidence has convinced Bender that 19-year-old girls cannot move 175-kg cabinets? (Experiments with my own 230-kg piano suggest that they can.)

Worse is that Bender omits from his account the highly significant fact that Annemarie was caught in fraud by a policeman. Neither does he mention the inconclusive but curious discoveries reported by the Viennese magician Allan after a visit to the Rosenheim office during the poltergeist outbreak.[15] He states that it was possible to capture a "phenomenon" (a painting turning around "120 degrees"—that is 200 degrees less than was claimed in Bender's first report!) on Ampex film. He does *not* tell us why persons who know something of the background of that incident refuse to be impressed with this piece of evidence.

In none of his publications of which I am aware has Bender ever referred to the suspicious features of the case.[16] Presumably, his silence has misled Eysenck and Sargent, in their militantly pro-psi book *Explaining the Unexplained*,[17] to claim that "despite the fact that many people—highly trained in different disciplines—were looking for evidence of fraud all the time, no hint of it was ever sniffed."

The publication of Bender's most recent book, *Zukunftvisionen, Kriegsprophezeiungen, Sterbeerlebnisse* ("Precognitive visions, war prophecies, death experiences"),[18] has done little to restore my faith in the nestor of German parapsychology. A detailed examination of this incredible work would be beyond the scope of this article. I will restrict myself to

exposing what to the uninitiated reader must appear to be a perfect proof of the reality of precognitive ESP. On the first page of the book, under the chapter heading "Visions of the Future from a Scientific Perspective," he tells the story of the American student Lee Fried, who, Bender says, in 1977 dreamt about a recently deceased friend who showed him a newspaper bearing a future dateline. The headlines referred to a collision of two 747's over Tenerife with 583 people dead. Fried informed the president of his university of his premonition. Ten days later, the terrifying dream came true to the letter. According to Bender, "the opponents" will try to explain away such miracles by questioning the accuracy of the facts but in the case of the Tenerife prediction they stand no chance, for the documentation of the facts cannot be faulted. (In the chapter on parapsychology that Bender and his apprentice Herr Elmar Gruber contributed to *Kindlers Handbuch Psychologie*, it is stated that the Fried prophecy is "reliably documented.") All the stubborn skeptics could possibly do, Bender says, would be to resort to the preposterous hypothesis that the perfect match between premonition and actual disaster could have been brought about by chance.

Alas, the paranormal warning-system does not seem to have worked for Hans Bender when he wrote down those paragraphs. His version of the facts would indeed seem to preclude a naturalistic explanation. However, he managed to get all the crucial facts wrong. The Fried "prophecy" is a well-known, much-publicized, well-documented, and confessed hoax. In Bender's account, the facts have been distorted almost beyond recognition.

Fried of course never *told* the president of the university of the impending Tenerife disaster.[19] What he did do was to put an envelope, said to contain an unspecified "prediction," in a locked drawer in the president's office. When the catastrophe had taken place, the envelope was opened and a piece of paper with the words "583 Die in Collision of 747's in Worst Disaster in Aviation History" was produced. Soon after, Lee Fried frankly admitted that he had planned the prediction as a stunt. The slip of paper containing the "prophecy" was inserted only *after* the disaster, by sleight of hand.

According to *The Second Book of the Strange*,[20] the Fried episode has shown that "the credulousness of at least a proportion of the news-consuming public is almost unlimited."

We cannot really blame the public for occasionally failing to distinguish between fact and fraud. However, we are entitled to expect better from the most prestigious representative of scientific parapsychology in Germany.

Discussion and Conclusion

Hans Bender has stated that his conviction that the paranormal exists is

"unshakable." Furthermore, he has repeatedly affirmed his belief that a wider acceptance of psi will be highly beneficial to mankind. Parapsychology is the supreme weapon against the "mechanistic world-view" of the intellectual establishment—a world-view that Bender holds responsible for many of modern society's most serious problems. From the vantage point of the moralist, such considerations would justify a certain nonchalance vis-à-vis the scientific facts. As soon as one's convictions become unshakable, evidence ceases to be relevant—except as a means to convert the unbelievers—and factual inaccuracies in the parapsychological propaganda are excusable in the light of the Higher Truth. I do not wish to impugn Bender's integrity. I am satisfied that his public statements and actions are consistent with his personal values. These values, however, are clearly incompatible with the spirit of scientific inquiry.

It is typical of the pre-paradigmatic status of parapsychology that Bender continues to be regarded as one of the foremost representatives of the field. Alcock has posed the question: Is parapsychology science or magic? No unambiguous answer can as yet be given. While Martin Johnson has shown that at least *some* parapsychologists are engaged in activities virtually indistinguishable from what critics mean by "skeptical inquiry," the case of Hans Bender demonstrates that the demarcation line separating scientific parapsychology and fringe occultism is by no means as sharply drawn as some proponents have optimistically claimed.

Notes

1. J. Alcock, *Parapsychology: Science or Magic?* Pergamon Press, Oxford, 1981.

2. J. Randi, *Flim-Flam! Psychics, ESP, Unicorns, and Other Delusions,* Prometheus, Buffalo, N.Y., 1982.

3. D. Stokes, review in *Theta*, vol. 9, no. 1, Winter 1981.

4. Elsewhere in his review, however, Stokes writes of "a wide continuum of parapsychologists, ranging from the skeptical to the credulous, with no clear line of demarcation separating the two groups."

5. M. Johnson, *Parapsychologie, Onderzoek in de Grensgebieden van ervaring en wetenschap*, De Kern, Baarn, Holland, 1982.

6. Dr. Haraldsson kindly sent me his comment on Dr. Johnson's criticisms. He argues that Johnson implicitly adopts a criterion that would justify summary rejection of *any* anomalous claim.

7. To a certain extent only. Too many German critics have ignored the fact that, after the emergence of the "new conservatism" in German parapsychology, the field is no longer monopolized by Bender. Ideologically, these new conservatives (e.g., Eberhard Bauer, Gerd Hövelmann, Klaus Kornwachs, and Walter von Lucadou) are close to Martin Johnson. For an excellent survey of recent developments in Germany see E. Bauer and W. von Lucadou (eds.), *Spektrum der Parapsychologie*, Aurum Verlag, Freiburg, 1983.

8. H. Bender, *Unser sechster Sinn*, 1st ed., 1972; revised and enlarged edition, Wilhelm Goldmann Verlag, Stuttgart, 1982.

9. D. West, *Psychical Research Today*, Duckworth, London, 1954.

10. J. Beloff, *Psychological Sciences*, Crosby Lockwood Staples, London, 1973. Remarkably well-balanced chapter on parapsychology.

11. W. Von Gulat-Wellenburg, C. Von Klinckowstroem, and H. Rosenbusch, *Der Physikalische Mediumismus*, Ullstein, Berlin, 1925. Classic critique of the so-called "physical phenomena." Soon acquired the sobriquet "Drei-Männer-Buch" (Three men's book).

12. M. Gardner, *Science: Good, Bad and Bogus*, Prometheus Books, Buffalo, N.Y. 1981. C. Evans, review of *The Geller Papers* in the *Humanist*, May/June 1977.

13. Silvio's cheating is documented in *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie*, vol. 23, no. 2, 1981. In recent years, this journal has adopted an open policy. Skeptical contributions are welcome. Here, the growing influence of the "new conservatives" is felt.

14. My exhaustive critical analysis of this alleged miracle is scheduled for publication in the *Zeitschrift*.

15. Allan, Schiff, and Kramer: *Falsche Geister Echte Schwindler*, Paul Zsolnay, Vienna, 1969.

16. It is only fair to mention at this point that inadequate reporting on poltergeist cases is not Bender's monopoly. In 1978 the criminologist Dr. Herbert Schäfer told the press that Heiner Scholz, focus person of the celebrated Bremen case of 1965-66, had made a complete confession. Bender and his colleague Johannes Mischo have pointed out serious flaws in the fragmentary press accounts of this exposé. Schäfer never published a complete report of his findings, nor has he publicly replied to the parapsychologists' counter arguments.

17. H. Eysenck, and C. Sargent, *Explaining the Unexplained*, Book Club Associates, London 1982.

18. H. Bender, *Zukunftvisionen, Kriegsprophezeiungen, Sterbeerlebnisse*, Piper, Munich, 1983.

19. Personal communication from Terry Sanford, president of Duke University, July 1983.

20. *The Second Book of the Strange*, by the Editors of *The World Almanac*, World Almanac Publications, N.Y., 1981 •

Magicians, Scientists, and Psychics: The Foot Is Quicker Than the Mouth

How we are so easily fooled

William H. Ganoe and Jack Kirwan

It has become almost a cliché that many psychic investigators, especially those with Ph.D.'s or other impressive credentials, are woefully ignorant about legerdemain, magic, and conjuring tricks. Thus they are easily bamboozled by charlatans who get away with stuff that is old (silk) hat to seasoned magicians. But why is this? Why are tricksters, claiming to be the genuine article, able to dupe intelligent and knowledgeable people so often? It can't all be stupidity or an overwhelming will to believe. In fact, many investigators are experienced researchers and sincerely interested in producing scientifically acceptable results.

One major answer is that the magician has an ally—someone he can rely on completely to help him fool his audience or victim. And that ally *is the victim himself.* What is worse, the more logical and perceptive the victim is, the likelier he is to be conned. Let's see why.

The magician's ability to fool the spectator lies in leading his audience down a path—but not going there himself. As magician John Mulholland wrote in his book *Quicker Than the Eye*:

> [A magic trick] is devised so that everything is so obviously fair that the one or two points on which depend the success of the deception may be slid over without attracting attention . . . what the audience thinks it sees has been merely spoken of or suggested by pantomime and has not been done. What has been slyly done is not noticed because everyone has been

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made to look in just the wrong spot at just the right time . . . . The wider the knowledge of the person *the more easily he may be fooled* for his mind may be distracted in so many ways. [Italics added.]

This is why the old aphorism that little kids are a magician's toughest audience is not just a cute line. It is literally true. Again, John Mulholland:

> Children are hard to perform for because it is almost impossible to fool them. They have so little knowledge of cause and effect that they are apt to fail to know that the orange is in the hat because the magician put it there. The adults know of course that a thing must be where it is placed. The orange is probably *not* in the hat; the magician merely feigned the motion of dropping it there and the children are right. The reason an uninformed mind is more difficult to distract may be shown by pointing out an object to a man, to a child, and to a dog. The man will instantly look in the direction pointed. The young child will look at the finger, then follow the way it is pointing until he sees the object. The dog comes to smell the finger. The dog will keep his eyes on the man.

Exactly how does the magician lead his audience down that path? To begin with, he does not use fast hands. Mulholland wrote in another book, *Beware Familiar Spirits*, "When one says that a medium cannot be a magician because he does nothing rapidly, that is merely another way of saying that the person has no knowledge of the way a magician works." Any physiologist will tell you that the eye is faster than the hand. Much faster. But even if it weren't, that would be irrelevant. The eye wouldn't see exactly what the hand did, but it would see a blur of movement—and that would be the end of credibility.

Visual perception, the mind's interpretation of the information from the eye, can be much slower than the magician's hands. And the skilled magician can manipulate his audience's perceptions, like a musician plays an instrument, to produce just the music he wants. This manipulation is based on distraction and involves misdirection, suggestion, timing, showmanship, and personality.

Misdirection is a powerful method of distraction. By careful staging and preparation, the performer sets his audience up to expect the "next step." If the magician tosses a baseball in the air, the spectator (naturally) expects it to fall down. This rational expectation, otherwise necessary to get along in life, is what the trickster must have going for him to perform his stunt.

For example, if you softly sing the words: "Oh, say, can you see, by the dawn's early clam," most listeners will hear the word *light* in their mind's ear. And even if they heard the word *clam*, years of conditioning would cause them to discount their senses and erase the tape.

But misdirection can also be applied after the fact. As James Randi wrote a few years ago, at appropriate points in the sequence of steps leading to a trick's climax a skilled magician will pause and recap the preceding steps, "... and in so doing falsely though logically introduce or omit data essential to creating an incorrect memory of the procedure." For instance, a spectator may be handed a deck of cards and told to shuffle them. Later the magician may point out that the spectator had *examined* and shuffled the deck.

However, while these examples illustrate misdirection they also contain an element of suggestion. As Mulholland noted, "A bright and agile mind will furnish the details of a mystery which the magician has only suggested ... when a few major points of a familiar situation are given, all the rest will be filled in from memory." For example, millions of Americans on hearing the last movement of the William Tell Overture automatically fill in the masked man with the great white horse, silver bullets, and Tonto.

James Randi gives another example: "Uri Geller has merely suggested to spectators that keys he had 'magically' bent would continue to bend, and the spectators have promptly seen metal distorting left and right."

A magician may go to great lengths when covering his eyes to suggest that he really is completely blindfolded. Most observers get so caught up in the wrappings and bandages they never think about turning off the

destroy the means of verifying the magician's descriptions and provide a great temptation for the magician to peek (as if his normal vision would be any better than the skeptic's in a dark room). A better approach would be to make the room pitch dark while the observer used infrared imaging systems.

Timing is another important element in trickery. In Mulholland's words: "Perhaps it may be best explained by saying the magician seems to be acting to the cadence of the waltz . . . but actually the rhythm of his work is off beat as in swing music. The minds of the audience are in regular time and the magician does those things which he wants to pass unseen either before or after the beat."

Not only is timing, coupled with misdirection and suggestion, important while performing an illusion, it may be a key element before or after a trick is "performed." A magician makes a prediction—at least he says he's made one—and seals up a written report of the prediction. But the real trick may actually be performed at the unsealing ceremony, after the "predicted" event occurred.

Volunteered information can be vitally important for "telepathy" demonstrations. The trick actually involves the magician's careful attention to his subject's conversation before the actual demonstration. Most people have a very poor memory for exactly what they have said in the past, especially if the magician suggests to them that he could have no prior knowledge of some aspects of the person's thoughts.

Showmanship is a great tool for magicians and psychics—especially for psychics. By taking great pains to emphasize the delicate nature of psychic phenomona and the "fact" that "bad vibes" will adversely affect the phenomona, the psychic can induce observers to relax rigorous experimental controls and protocols. And the artful inclusion of failures in a series of trials not only emphasizes the assertions about "bad vibes," but it enhances the "psychic's" credibility in the eyes of the observers, leading to further relaxation of controls and critical observation.

The personality of the psychic is likewise critical. With it the psychic can create the image of a completely trustworthy individual as well as one who is very "sensitive" and apt to throw a tantrum if the "bad vibes" become too strong (i.e., if experimental controls are applied too rigorously).

Another oldtime magician, John William Sargent, felt that the trick itself was only 10 percent of the performance—the showmanship and personality of the performer was the other nine-tenths of the act.

There are, of course, many other facets and details of the magician's art. The point is that there are an infinity of ways for one person to deceive or distract another. It takes years of concentrated effort to become a knowledgeable and skillful practitioner of the art of magic. And most magicians admit that the specific techniques of deception are far too numerous for one performer to know them all. However, a person does

not need an awesome education and apprenticeship in magic to successfully fool an audience, especially if the audience has a lot of "common sense" and learning but very little understanding of the ways of deception.

Scientific researchers investigating psychic phenomena cannot be expected to know *all* of the possible ways in which they could be misled. However, for psychic research to be accorded any degree of credibility, the researchers must understand the basic principles of distraction or deception. They must become more aware of their own biases and human foibles, and they must provide the utmost control and complete recording of all their experiments.

An excellent example of lack of attention to these points is provided by John Hasted in *The Metal-Benders*. Hasted wrote, " . . . testimonies [of metal-bending phenomena] are perhaps not worth very much in isolation, but when similar reports accumulate, as they have done, they amount to more than video-records." Yes, such testimonies may provide a greater quantity of symbol-covered paper or, perhaps, audio tape. But they do not provide an objective record that can be rechecked by others to verify that the original observer had not missed something—or everything.

Acknowledgment

The authors would like to thank Jerry Burch, a magician living in Tucson, for his explanations and advice.

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A New Controlled Dowsing Experiment

Putting the president of the American Society of Dowsers to the test

Michael Martin

I have taught a course at Boston University for several years entitled "Philosophy of Science and the Occult." Each student in the course is required to do a project in which some claim of the occult is subjected to critical scrutiny. In the spring of 1981, one of my students, Perry Flint, designed and performed a controlled dowsing experiment. The subject of the experiment was Paul Sevigny, president of the American Society of Dowsers and an experienced dowser.

Before the actual experiment was performed, Mr. Sevigny gave an informal talk to some of my students and demonstrated the use of dowsing apparatus. Perhaps the most notable feature of this talk was the sweeping claims Sevigny made about dowsing. We learned that dowsers could not only determine the depth of underground water and the direction of its flow, but could locate water at a distance by seeing where the dowsing rod dipped on a map. Sevigny said that by using a dowsing rod members of his organization could locate missing persons, predict the sex of babies still in the womb, and locate the position of our nuclear submarine fleet on a world map.

After Sevigny's talk, we moved across the hall to a room in which Flint, with the help of my graduate-student teaching-assistant, Paul Krustapentus, had set up the experiment. It was quite simple in design and inexpensive to perform. It might well serve as a model for others who wish to test the powers of dowsers.

Briefly, the experiment set up was this. Four plastic water-hoses ran from one plastic trashcan on one side of the room to another trashcan on the other side of the room. A water pump was attached to one of the four hoses and water was pumped from one can to the other. The pump, the person who operated it, and the trashcan containing water were all hid-

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den from the view of the dowser and the audience by a screen. The four hoses that ran across the floor were covered with a rug. The position of the four hoses underneath the rug was indicated by large pieces of paper on the floor with the numerals 1, 2, 3, 4 written on them.

The operator behind the screen chose one of the four hoses, attached the pump, and pumped water through the hose from one can to the other. The choice of hose was determined by an inexpensive battery-powered randomizer commercially available for ESP experiments. In order to help eliminate the possibility that the dowser would pick up auditory clues from the water flowing through the hose, a loud electric drill was activated when the water pump was in use.

During most of the experiment Sevigny, with dowsing rod in hand, walked back and forth over the rug attempting to determine which hose had water flowing through it. Occasionally he sat on a chair and attempted to dowse from a distance by asking the rod questions, for example, "Is it hose number one?" A dip of the rod was interpreted as a positive answer. He used the standard forked dowsing-rod most of the time, but on occasion he used two L-shaped rods, one held in each hand.

After Sevigny called out his guess, the operator behind the screen pushed a revolving drum stationed on a table alongside the screen. This drum swung around toward the audience and on it was pinned a piece of paper bearing the number of the hose the water was in fact flowing through. (The operator had pinned the paper on the drum before the pump was activated.)

Sevigny's guesses and the correct answers were then written on a blackboard in the front of the room and independently recorded by a student on a piece of paper.

Forty trials were run. If nothing but chance had been operating, then one would have expected about ten correct guesses in the forty trials. Sevigny got nine correct guesses in forty trials.

The difference between Sevigny's performance in a controlled experiment and his claims in the informal discussion beforehand was quite remarkable. What was Sevigny's explanation? He did not seem upset; in fact he laughed and joked about his bad performance. But he maintained that this experiment meant nothing; it was "just a game." He said that, if he had to find water under serious conditions, then he would be successful.

The contrast between the claims made in the discussion and the performance in the experiment was a good lesson for the students. From the standpoint of raising skeptical doubts in students' minds, there is perhaps nothing better than being able to compare for oneself a person's claim to possess allegedly occult powers and his or her failures in actual practice.

Aside from the pedagogical impact of the negative results of this experiment, it should be noted that the results are completely in keeping with both the review of the evidence for dowsing provided by Vogt and Hyman (1979) and the recent experiment of Randi (1979) published in

this journal. The available evidence can be succinctly summarized: When dowsers perform under controlled conditions, they do not do better than one would expect by chance.

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An Investigation of the Reported Effect of Transcendental Meditation on the Weather

A correlation between days of good weather and TM-expressed need for them turns out to have a surprising explanation

Franklin D. Trumpy

At the 1982 meeting of the Iowa Academy of Science, Dr. R. A. Rabinoff, professor of physics at Maharishi International University (MIU), presented a paper entitled "Effect of Coherent Collective Consciousness on the Weather" by R. A. Rabinoff, M. C. Dillbeck, and R. Deissler. The paper reported evidence claiming that the temperature of the environment could be modified by practicing Transcendental Meditation (TM). Clearly, such claims fall well outside the realm of science as most of us know and practice it today. It would be easy to reject such hypotheses as absurd and not worthy of any scientist's attention. To do so, however, leaves scientists with the appearance of being closed-minded and rigid. The history of science is replete with visionaries who were rejected by their contemporaries and later vindicated by more enlightened students of science.

In my view, scientists are obligated to entertain such claims until the evidence against them suggests that further study will result in continued negative results. Perpetual motion is a good example of this situation. It is impossible to prove that perpetual motion does not exist. However, attempts to produce perpetual motion have failed so certainly so many times that scientists no longer regard it worthy of serious consideration. Claims about TM, which may well deserve the same status as perpetual motion, will never achieve it unless scientists apply their standards of inquiry and objectivity to investigate these allegations. Moreover, these

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claims will not go away if scientists ignore them and leave their interpretation to nonscientists. Scientists have an obligation to review these assertions, to investigate them, and to report the results to other scientists and to the community at large. What follows are the results of just such an effort.

During the winter of 1979-80, MIU was engaged in a major construction project: the building of a domed structure for the practice of levitation. (For an excellent review of MIU's levitation claims and programs read *Flim-Flam!* by James Randi.) In any event, according to the MIU architect, the university acted as its own contractor, and construction was pushed forward regardless of weather conditions. This alleged disregard for weather extended even to the pouring of concrete. Concrete, according to the campus architect, was poured whenever the schedule required it and the necessary materials were available.[1] On the evenings before concrete was to be poured, students and others at MIU participating in the TM-Sidhi program were instructed to desire warmer weather for the next day.[2]

There is no evidence that MIU's attempt to modify the weather with TM was a carefully planned or designed experiment. Rabinoff et al. had simply gone back after the fact, observed an apparent correlation, and performed a statistical analysis to confirm it. No parameters were established to control the experiment; nor, to my knowledge, has there been any attempt at replication.

Rabinoff's paper suggested that there was a clear and distinct correlation between TM practitioners' desiring warmer weather on one evening and unusually warm weather occurring the following day.[3] Rabinoff claimed that the most parsimonious explanation for this correlation is a cause-effect relationship between TM and the observed weather.[4] That TM represented the best and the most obvious explanation struck me as a non sequitur. Surely there could be more mundane explanations for the observed correlation.

Since the weather was the primary factor of interest, I started my investigation by looking at weather reports during the period in question. The National Weather Service in Des Moines, Iowa, permitted me to peruse the forecasts issued during the time MIU was engaged in the construction project. MIU is located in Fairfield, Iowa, close to the middle of what the National Weather Service calls Zone 13. I therefore focused my attention on the forecast for Zone 13 at 4 P.M. and at 9 P.M. on the days before concrete was to be poured. Once these forecasts were known, I compared them with the weather that actually occurred the following day. Table 1 shows the results of this comparison. While a correlation appears to exist between TM and warmer weather, there is a much stronger correlation between evenings when TMers desired warmer weather for the next day and the preceding afternoon's forecast predicting warmer weather for the next day.

In other words, the National Weather Service consistently predicted more favorable or continuing favorable weather for the next day hours before the TM-Sidhi participants were instructed to desire warmer weather. Forces affecting the weather were producing warming trends before the meditation desiring warmer weather actually took place. This alone seriously weakens any claim that TM affected the weather. Certainly it shows that TM could not have been the prime mover in any meteorological event studied here. Unless, of course, we are willing to accept that TM can be retroactive, a hypothesis that would be extremely difficult to defend. In fact, what MIU had managed to do was to pick eight nonconsecutive days in a row when the preceding day's forecast predicted mild or continuing mild weather. Given Iowa's reputation for rapidly changing and sometimes unpredictable weather, I wondered how probable it was to randomly select eight days for which the preceding day's forecast was favorable.

Concrete was poured during the 43-day period from November 27, 1979, to January 10, 1980. Again I returned to the weather reports issued

TABLE I

Comparison of Weather Forecast on Days Before Concrete Was Poured and the Actual Weather the Following Day

Forecast Dates*	Favorable	Not Favorable	Actual Weather†
11/26/79 (see ‡ below)	X	X	Unfavorable
12/2/79	X		Favorable
12/4/79	X		Favorable
12/10/79	X		Unfavorable
12/13/79	X		Favorable
12/18/79	X		Favorable
12/20/79	X		Favorable
1/9/80	X		Favorable

* Forecast dates are for the day *before* concrete pouring took place.
† Inferred from Figure 1 of MIU paper
‡ The 4 P.M. forecast was favorable while the 9 P.M. was not.

by the National Weather Service. I tried to judge the general tone of the forecast, tone that would leave either a favorable or unfavorable impression with the reader interested in the next day's weather. Words like "mild," "milder," "continuing mild," and "warm" were considered indicators of favorable weather. "Cold," "colder," "snow," and "traveler's advisory" were considered as indicators of unfavorable weather. Overnight temperatures above freezing were considered somewhat favorable; temperatures in the low teens and below, mostly unfavorable. Based upon these criteria, there were 20 favorable days and 23 unfavorable days during this period. Thus, the probability of randomly selecting a favorable day during this period was slightly less than one-half. The probability, therefore, of selecting eight such days in a row is quite small.

Given that it is highly unlikely that these eight days were randomly selected, I wondered how TM and the weather forecast could be so closely correlated. There is no doubt that the use of Transcendental Meditation was inspired by the decision to pour concrete.[5] In light of current information, the task was to determine how weather forecasts affected the decision. While one cannot reject out of hand the possibility that the persons who made the decision were directly influenced by weather fore-

casts, I am not considering that possibility here. Could there have been some intervening factor?

As a first attempt to answer this question I considered the primary ingredient in concrete work. Concrete, once mixed, commits its creator to a strict time schedule. Based upon time and temperature, freshly mixed concrete becomes a solid within a relatively short time. It must be transported, delivered, poured, and finished within one to two hours.[6] Therefore, travel conditions and the threat of precipitation and freezing temperatures should be of keen interest to firms who mix and sell concrete.

MIU's architect had acknowledged only that the decision to pour concrete was based upon their construction schedule and the availability of certain materials. Clearly, construction schedules are influenced by the weather. Moreover, weather could also affect the availability of materials. Given the delicate nature of the timing of handling wet concrete, it is not difficult to imagine its availability being dependent upon the weather. More important, could the availability of materials like concrete be dependent on weather *forecasts*?

Once I learned the name of MIU's supplier of concrete, I sent the firm a questionnaire indicating my interest in the procedures it used during freezing or near-freezing conditions. The survey did not reveal the nature of my inquiry, but simply asked a number of questions related to the mixing and pouring of concrete during cold weather. Two items were of particular importance.

Before we are willing to commit our equipment in the winter, we consult:

_____ The National Weather Service

_____ A private forecasting service

_____ Other (explain)

_____ Weather forecasts do not affect our decisions regarding the production of concrete.

In cold weather (below 32°F), we require our customers to give us advance notice of:

_____ One hour

_____ Four hours

_____ One day

_____ Variable

_____ Other (How long?)

MIU's concrete supplier replied by indicating that the response to the first item above was "The National Weather Service" and that the response to the next item was "One day." The supplier had required MIU to give one day's notice of the need for concrete and referred to the National Weather Service before agreeing to mix concrete on any given day. Clearly, this demonstrates that TM's effects are not the most parsimonious explanation of the observed correlation. One cannot positively conclude that the concrete mixer was the intervening variable. Nevertheless, it demonstrates that there is at least one other explanation that does not require causation between TM and the observed weather. One must, I assert, conclude that there are potentially multiple explanations for the apparent correlation between TM and the warm weather during this period. Furthermore, the explanation given here is far more plausible than that offered by Professor Rabinoff and his colleagues at MIU.

Acknowledgment

I am grateful for the assistance of the National Weather Service of Des Moines and Mr. Perry Baker, without which this investigation would not have been possible.

Notes

1. Personal correspondence with H. O. Clark, MIU campus architect.
2. Robert A. Rabinoff, Michael C. Dillbeck, and Robert Deissler, "Effect of Coherent Collective Consciousness on the Weather," paper presented at the 1982 annual meeting of the Iowa Academy of Science, p. 8.
3. Ibid., abstract.
4. Ibid., pp. 16, 17.
5. Ibid., p. 8.
6. *Concrete Mix Design*, Portland Cement Assoc., 12th edition. •

The Haunting of the Ivan Vassilli

This supposed 'haunted' Russian ship may have been ghostly all right, but not in the way claimed

Robert Sheaffer

Are "evil hauntings" real? If there is any truth to the notion that some places and objects are haunted by evil forces, then surely the classic example must be the alleged haunting of the Russian steamer *Ivan Vassilli,* built in 1897 but abandoned just a few years later because no crew would set foot on it. The most recent account of the ill-fated vessel is that of parapsychologist D. Scott Rogo, consulting editor of *Fate* magazine. He presents this story as the prime example of an "evil haunting" in his book *The Haunted House Handbook* (Grosset & Dunlap, 1978). Rogo participated in the pre-release movie publicity for *Poltergeist,* as a prominent expert on such hauntings.

According to Rogo's account, the crew of the *Ivan Vassilli* suddenly "felt" an evil presence on board while on a voyage in 1903 from the Baltic to Vladivostok. "It felt as though the whole ship were being saturated with evil," he writes. Eventually the crew panicked, and finally one crewman could stand the evil presence no longer and jumped overboard. This death seemed to satisfy the ghost, Rogo reports, and the evil presence seemed to vanish almost immediately from the ship.

But not for long. The evil was back three days later, and upon reaching port the crew tried to desert the ship but were forcibly returned and set sail for Hong Kong. The horror became even stronger (or so the story goes), and the crew claimed to be able to see the ghost in a misty, human-like form. Two more men jumped overboard, and a third literally died of fright. The *Ivan Vassilli* made only two more trips, one to Australia, the other to San Francisco. On both trips the "thing" claimed more victims, according to Rogo. Finally the ship returned to its home port in Russia,

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where no sailor could be induced to board it. The ship was "burned."

This is certainly an intriguing ghost story, but does it have any basis in fact? Rogo cites as his source a chapter titled "The Haunts and the Horrors" from Vincent Gaddis's book *Invisible Horizons* (Chilton Books, 1965). Gaddis's books on "mysterious things" may well have served as a model for such writers as Charles Berlitz and Jay Gourley. Among the sources Gaddis draws upon in his book are *Fate* magazine, the books of Frank Edwards, and Ripley's *Believe It or Not.* For the *Ivan Vassilli* story he cites *Coronet* magazine, December 1942, and *American Weekly,* April 14, 1940. I managed to obtain that issue of *Coronet* but found no mention of the incident. The other reference proved impossible to obtain.

Pursuing other sources, I contacted the Maritime Museum in San Francisco, a city reportedly visited by the haunted ship in 1903 or soon thereafter. Barbara Bernhart, research librarian, began looking for evidence that the *Ivan Vassilli* actually existed. It was not listed in Lloyd's Register of Shipping, or the American Register of Shipping, although this was said to prove little, since it is by no means certain that all Russian vessels would be listed. It also was not to be found in Jane's *All The World's Ships.* More suspicious, however, is the fact that while the San Francisco Marine Exchange keeps a record of all ships arriving in the port, complete since 1902, it had no mention of the *Ivan Vassilli.* There is also an index of newspaper listings of vessels arriving in California, which would be expected to list all major ships. There is no mention of this one.

The next most obvious place to look for a record of this incident was in the works of Charles Fort. To me it was inconceivable that, if this haunting were in fact a real incident, it could be overlooked by Fort, the omnivorous collector of interesting if often unverifiable tales. One of the most diligent students of the works of Charles Fort is a young man in Ontario who goes by the name of X. (I once asked him, "Why are you called X?" and he replied by asking, "Why are you called Sheaffer?" I never tried to resolve the matter after that.) I wrote to X, who formerly was editor of a Fortean newsletter, asking what he knew of the alleged haunting of the *Ivan Vassilli.* He was familiar with the account from Gaddis, but had likewise been unable to discover any substantiation for the story. The incident does not appear anywhere in the works of Fort, X assured me, and he was very much disinclined to believe the kind of "ghost stories" that were published in *Coronet* and the *American Weekly.* He also noted that, while the ship was said to have been carrying military supplies in preparation for the Russo-Japanese War, it is not mentioned in any accounts of that war.

I wrote directly to Vincent Gaddis, who is in retirement in Southern California. He was kind enough to send me copies of the very articles he references in the book. The *Coronet* item had been simply mislabeled; it was in the September 1942 issue, not December. It was a brief four-paragraph item in a column by R. DeWitt Miller, the Charles Berlitz of his day. There was no indication of the source of the information. (Gaddis also cited one of the books by Miller, *Forgotten Mysteries* [1956], as a source for the story, but this citation, too, appears to be incorrect. In any case, Miller's book appears to consist of recycled items from his *Coronet* column.)

As for the *American Weekly* article of April 14, 1940, it was a real eye-opener. It bears the title "More Proof That Hoodoos Ride Ships." The first half of the story deals with the saga of the British tramp-steamer *Stonepool,* which had just finished a harrowing crossing of the North Atlantic pursued by German U-boats. The crew of that ship had been plagued by mechanical problems (although not by ghosts) and were lucky to reach port alive. Inexplicably, the article then plunges into the yarn of the *Ivan Vassilli,* which it describes, quasi-tongue-in-cheek, as "almost unbelievable." No source whatsoever is cited for the story, and it is not clear why it was included here. Interestingly enough, the San Francisco Maritime Museum confirmed that the *Stonepool* was indeed a real ship, exactly as described, and suggested that the *first* portion of the article was entirely plausible.

Thus the earliest known account of the alleged haunting of the *Ivan Vassilli* comes from a low-pedigree Sunday supplement story titled "More Proof That Hoodoos Ride Ships." Here the trail grows cold. Furthermore, the account of the ship's travels and activities are contradicted by independent records. The most plausible explanation for the whole

matter is that a newsman appended a ghost story, tongue-in-cheek, to an otherwise not terribly dramatic account of "jinxes" at sea, and that credulous writers and parapsychologists have cited the supposed incident ever since.

"The strange story of the ill-fated *Ivan Vassilli* is not fiction," D. Scott Rogo assures his readers. However, there are very good reasons to believe it is. •

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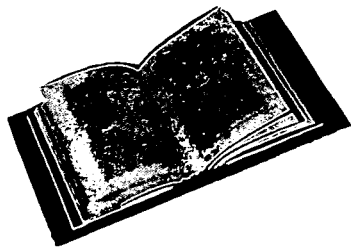

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Venus and Velikovsky: The Original Sources

Detailed examination of the original contexts of Velikovsky's references shows a picture strikingly different from the one he presented

Bob Forrest

Most people who read Immanuel Velikovsky's *Worlds in Collision* are impressed by the number of footnotes. When anything is based on so many references to so many learned works it would certainly seem that there must be something to it. But is this necessarily so?

After more than two years of checking Velikovsky's work virtually source by source, I have more than a few doubts.

Most critiques of Velikovsky have dealt with the inaccuracy of his science and the implausibility of his scenarios (see, for example, the three-article report on the "Velikovsky Affair," *SI*, Fall 1980). I have focused on the original contexts of his historical and scholarly references and his treatment of this material. This approach provides even more evidence—if more were needed—that his works belong more in the realm of fantasy than in that of science or scholarship.

According to Velikovsky a great world catastrophe was caused by the planet Venus about 1500 B.C. At that time, Velikovsky claims, Venus had not long been expelled from the planet Jupiter. It had the form of a huge comet, and it moved on an orbit round the sun that brought it perilously close to the earth from time to time.

Let us take a look at some of the textual "evidence" Velikovsky produces in support of his claims. I will give just a few examples.

To begin with, Velikovsky tells us that to the Mexicans Venus was "la estrella que humeava," the star that smoked. But does this phrase really refer to a cometary Venus in 1500 B.C.? If we follow up the sources cited by Velikovsky, we find it refers to nothing of the sort. According to

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the main source, E. T. Hamy's *Codex Telleriano-Remensis*,[1] Venus was the smoking star in the sixteenth century A.D., and so cannot possibly have had anything to do with Velikovsky's scenario! A possible explanation for the smoke is offered by F. H. A. von Humboldt's *Researches*,[2] to which Velikovsky also refers, and this likewise has nothing to do with what may or may not have happened back in the days of the Exodus. According to Humboldt the smoke may relate to the volcano Orizava, situated to the east of the city of Cholula, whose glow when seen in the distance resembled, or was symbolically related to, the rising Morning Star. This explanation is far from certain, of course: all we have are some sixteenth-century records that say, every so often, "This year the star threw out smoke"; but since the phrase seems to be frequently intertwined with records of earthquake activity, Humboldt's assumption seems reasonable.

Another reference to Venus looking like "a fire accompanied by smoke" is to be found, according to Velikovsky, in the *Vedas*. Actually Velikovsky here refers to a book by Scheftelowitz,[3] which in its turn refers not to the *Vedas* but to the *Mahabharata*,[4] India's equivalent of the *Iliad*. In any event the context of this fire with smoke is *not* a story of Venusian catastrophes and global disasters. Instead, it is part of a list of prodigies and portents associated with the approach of a battle between two rival families, the Kauravas and the Pandavas. The list includes women giving birth to peacocks, cocks crowing in strange ways, flowers blooming out of season, and, need I say it, Venus looking like fire with smoke!

We fare no better if we turn to the Talmud, where, Velikovsky assures us, is to be found the statement "Fire is hanging down from the

planet Venus." This statement is supposedly to be found in Shabbath 156a,[5] but once again, for the reader who troubles to look it up, there is only disappointment in store. Shabbath 156a is an astrological text. The nearest it comes to describing the Venus comet is when it tells us that those who are born under the planet Venus tend to be wealthy and immoral, since fire was created in the hours ruled over by Venus!

A similar astrological disappointment is in store for those who decide to follow up Velikovsky's reference to "the beard of Venus." Velikovsky takes this "beard" as another allusion to the former comet tail of Venus and refers to Morris Jastrow's book *Religious Belief in Babylonia and Assyria*.[6] But Jastrow himself has a much more mundane explanation: The "beard" of Venus refers to the spiky or jagged appearance the planet seems to have when observed at its brightest with the naked eye. It was—and still is—a function of the brightness of the planet and the turbulence of the earth's atmosphere. The comings and goings of the "beard" seem to have been a matter of some importance to the astrologers of Babylonia.

Related to this is a supposed reference to the former cometary Venus in Pliny's *Natural History*.[7] Velikovsky quotes Pliny as saying that "sometimes there are hairs attached to the planets," and he goes on to say that "an old description of Venus" must have served as a basis for Pliny's assertion. However, Velikovsky has edited out a key bit of text here, for Pliny actually says that "sometimes there are hairs attached to the planets *and the other stars*." The phrase emphasized, which Velikovsky simply omitted, makes it clear that the reference is to anomalous effects of the earth's atmosphere rather than cometary tails, and it is interesting that one such effect seems to have been observed in the seventeenth century (*A.D.*) in association with Venus: a citizen of Westminster named Gadbury recorded that twice in 1686 Venus looked "like a comet." The phenomenon is almost certainly related to that other atmospheric effect, the sun-pillar.[8]

Back to Babylonia now, Velikovsky tells us how "Assurbanipal speaks of Ishtar-Venus 'who is clothed with fire and bears aloft a crown of awful splendor, [and who] rained fire over Arabia.' " This, Velikovsky tells us, refers to the rains of burning naphtha that fell from the Venus comet. Being such a dramatic reference, it was one of the first I followed up in my study of Velikovsky. It was also one of my first disappointments; for this quote is not from an eyewitness account of a cosmic catastrophe, as I had naively expected, but from a lengthy list of acknowledgments to the gods for their help in Assurbanipal's warring campaigns against the Arabian tribes! Thus the first part of this inscription reads (translated by Luckenbill):[9]

> Ninlil, beloved of Enlil, the mighty, the proud one among the goddesses, who occupies a station of power along with Anu and Enlil, gored my

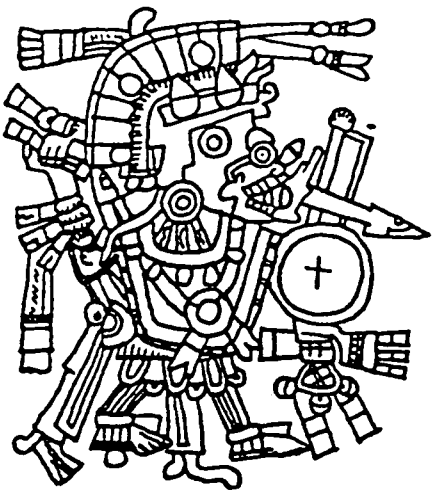

FIGURE 1. In Aztec lore the Morning Star is pictured as a warrior. But is this on account of Velikovsky's Venus comet, or is it simply because the Morning Star outlasts all the other stars in the dawn sky and, in effect, vanquishes them in a celestial battle?

> enemies with her great horns. Ishtar, who dwells in Arbela, who is clothed with fire and bears aloft a crown of awful splendor, spread a conflagration (lit. rained fire) over Arabia. The warrior Irra (the pest-god), engaging them in battle, struck down my foes. Urta, the lance, the great warrior, son of Enlil, pierced my enemies to the life with his sharp arrow. Nusku, the exalted messenger of the gods, who makes my rule glorious, and who, at the command of Assur and Ninlil, the valorous lady, goes at my side, guarding my kingship, took his place before my armies and brought low my foes.

The "conflagration" was spread over Arabia by the advancing armies of Assurbanipal, but it was the warrior goddess Ishtar who got the credit for its overall success, just as the gods Ninlil, Irra, Urta and Nusku got the credit for their roles.

It is true that Ishtar as a goddess was associated with the planet Venus, but it is not true to say that anything and everything the goddess Ishtar did necessarily represented something to do with the planet. The goddess and the planets were not synonymous.

Nor is the association of the *warlike* Ishtar with the planet Venus necessarily indicative of planetary catastrophism. The warlike Ishtar was associated with the Morning Star, probably for symbolic reasons, insofar as she heralded the fierce heat of day. In contrast a more peaceful, oracular aspect of the goddess was associated with Venus as the Evening Star. It is also worth mentioning that Ishtar was a love goddess as well as a war goddess, and in this way she was the forerunner of the Greek Aphrodite. Clearly, if Venus was once a hostile supercomet, it is rather unlikely that it would have become associated with a goddess of love and procreation! Lastly, the warlike Ishtar was also associated with the star Sirius, again

for symbolic reasons connected with its heliacal rising, and this surely demonstrates that the association of a warlike deity with an astronomical body does not necessarily indicate literal cosmic catastrophism! Sirius at least can never have descended upon the earth in a catastrophic flurry of fire and brimstone!

Moving to Egypt now, Velikovsky tells us that "the Egyptians under Seti thus described Venus (Sekhmet): 'A circling star which scatters its flame in fire . . . a flame of fire in her tempest,' " In the first place, though, the Egyptian goddess Sekhmet is not Venus at all but a divinity that symbolizes the destructive force of the sun. Second, the proper context of that "circling star" (which is to be found in James Breasted's *Ancient Records of Egypt*[10]) is nothing like the context constructed round it in *Worlds in Collision*. It comes not from a tale of planet-induced disasters but from an inscription of Seti I at Karnak. It is a fairly typical piece of pharaonic self-congratulation directed at Amon. The first few verses of it read like this (Breasted's translation):

> 1. I have caused them to see thy majesty as lord of radiance, so that thou hast shone in their faces like my image.
>
> 2. I have caused them to see thy majesty, arrayed in thy regalia, when thou takest the weapons of war in the chariot.
>
> 3. I have caused them to see thy majesty like a circling star, which scatters its flame in fire and gives forth its dew.
>
> 4. I have caused them to see thy majesty as a young bull, firm of heart, ready-horned, irresistible.
>
> 5. I have caused them to see thy majesty as a crocodile, terrible on the shore, unapproachable.
>
> 6. I have caused them to see thy majesty like a flame of fire, like the very being of Sekhmet, in her tempest.
>
> 7. I have caused them to see thy majesty as a fierce-eyed lion, so that thou makest them corpses in their valleys.

Sekhmet in verse 6 (she is a solar deity, remember) doesn't seem to have anything to do with the circling star of verse 3, and yet Velikovsky has run the two verses together, and edited out the dew, to make his Venus "quote." Finally, these verses are clearly metaphorical praises of Amon and not catastrophic records at all.

Back to the Hebrews again, and this time to the Midrash Rabbah for the "quote" that "the brilliant light of Venus blazes from one end of the cosmos to the other end." This is another of those "quotes" that is not really a quote at all, and to explain it requires a little digression.

Midrash Rabbah "Numbers" is a running commentary on the biblical Book of Numbers. Book 21 of this commentary deals with Numbers 25:11-29:35, and Velikovsky's "Venus quote," as I call it, occurs in its 22nd section. This section is a rather obscure digression on the implications

FIGURE 2. Venus, as Goddess of War, on an Assyrian seal.

of Numbers 28:2, a digression that encompasses a cross reference to Isaiah 4:5. It is this verse from Isaiah that is relevant to Velikovsky's "Venus quote." The relevant portion of the Midrash reads as follows (Slotki's translation):

> Yet the Holy One, blessed be He, will in the future prepare for every single righteous man a canopy of clouds of glory; as is borne out by the text, "The Lord will create over the whole habitation of mount Zion, and over her assemblies, a cloud and smoke by day, and the shining of a flaming fire by night; for over all the glory shall be a canopy" (Isa. 4:5). What is the use of smoke under a canopy? Whosoever sets fuming and evil eyes upon disciples in this world, his canopy will be filled with smoke in the World to Come. What is the use of fire under a canopy? We are informed by this that the canopy of every righteous man will be scorched by the fire from the canopy of the one who is superior to him. The expression "shining" indicates that its brilliance will shine from one end of the world to the other.

The reader will see that this last sentence is Velikovsky's "Venus quote," but that Slotki's version is nothing like Velikovsky's. It is the shining of the Lord's flaming fire by night (Isa. 4:5) whose brilliance will shine from one end of the world to the other, not the rampant Venus comet. Slotki's translation doesn't even mention Venus, and the whole context of Velikovsky's "quote" is not in the least catastrophic.

So how has Velikovsky arrived at his version?

The answer lies in the word *shining*. Isaiah 4:5 talks of the *shining* of a flaming fire and the Midrash says that it is the word *shining* that "indicates that its brilliance will shine from one end of the world to the other." But why should the word *shining* be said to indicate this?

This is where Venus *may* come in, for the traditional Hebrew name

for the planet Venus is Kokab Nogah—the Shining (or Brilliant) Planet—"Kokab" means planet; and "nogah," shining. The Midrash commentator may be assuming that, since Isaiah 4:5 uses the same word, *nogah*, for shining as is applied to Venus, therefore the fire of Isaiah 4:5 must shine, like the light of Venus, from one end of the world to the other—i.e. all over the world. The Midrash and the Talmud are full of such quizzical deductions based on the usage of particular words (there are a number of words for shining that Isaiah could have used), so that it is not at all unlikely that Venus figured in this sort of way in the mind of the Midrash commentator. But this is a very long way from Velikovsky's assertion that the Midrash describes how the Venus comet once blazed from one end of the cosmos to the other end!

Incidentally, we can at this point dispose of the "Venus" that Velikovsky claims is to be found in Isaiah 9:2. According to Velikovsky, Isaiah 9:2 should be translated "they that dwell in the land of the shadow of death, the light of Nogah was upon them"—that is, the light of Venus was upon them. The Bible, however, renders this, "they that dwell in the land of the shadow of death, upon them hath the light shined." What has happened here is that Velikovsky has turned the word nogah (= shined) in Isaiah 9:2 into a reference to Venus! I need hardly add that the word *nogah* does not *always* refer to Venus, any more than the word *iron* in English always refers to an implement for removing the creases from newly washed clothes!

By now the reader is probably wondering how many of Velikovsky's

FIGURE 3. Combat of Marduk and a Dragon. A cylinder seal. Do such pictures depict the approach of a hostile supercomet, or do they merely represent various aspects of the age-old battle between light and darkness, order and chaos, etc.?

quotations and references actually do hold water, and how on earth a book like *Worlds in Collision* can become the subject of learned university symposia. The following is actually the closest we get to a good record of a blazing Venus comet. Velikovsky writes:

> The Chinese astronomical text from Soochow refers to the past when "Venus was visible in full daylight and, while moving across the sky, rivalled the sun in brightness."

The trouble with this reference, though, is that though it is a genuine quote,[12] it does *not* occur in a catastrophic context, as readers of *Worlds in Collision* might suppose. There is no mention in the Soochow chart of rains of burning naphtha, earthquakes, upturned skies, or any of the other earth-shattering phenomena associated with Velikovsky's scenario. Rather, it appears as one item in a list of celestial prodigies that are supposed to have happened in the past, and which were believed to be the result of adverse political circumstances. The Soochow chart tells us that during periods of good government the sun, moon and planets move "with regular constancy" but that "if it happens that the emperor interferes with the office of the ministers or the latter usurps the imperial power ... the malign influences (planetary) change strangely and behave irregularly."

The claim that Venus once moved across the sky, rivaling the sun in brightness, is one example of such strange and irregular planetary behavior. But can this prodigy be taken any more seriously than another recorded in the same list—namely, the total disappearance of the planet Mars? And can either of them be taken any more seriously than a prodigy, recorded in the annals of the emperor Sueun, whereby a horse changed into a man? Chinese prodigies are not always terribly believable, and there is the occasional suggestion that some of them might have been grossly exaggerated, or even fabricated altogether, for one reason or another (e.g., for purposes of revolutionary political propaganda).

What makes it further certain that this Venus prodigy has nothing to do with the global mayhem proposed in *Worlds in Collision* is the way the Soochow chart fails to class it as a particularly alarming event. After describing the antics of Venus, the chart goes on to say that "in very serious cases"—presumably implying that what has gone before (which includes the Venus prodigy) is not very serious—the planets change into phantom stars or stars of ill omen. Now whatever else might be said of the Venus comet, there seems no way that it could ever be classed as anything but very serious indeed!

But let us now move on to the horns of Venus.

Velikovsky tells us that in Samoa the natives relate to this day how "the planet Venus became wild and horns grew out of her head." Unfor-

FIGURE 4. The Goddess Sekhmet.

tunately this "quote" is not a quote at all, and if we follow up Velikovsky's source here—R. W. Williamson's *Religious and Cosmic Beliefs of Central Polynesia*[13]—we find a story that is far removed from the scenes of cosmic catastrophe portrayed in *Worlds in Collision.*

Williamson repeats a legend about a girl called Tapuitea, who was married to the king of Fiji and had two sons called Toiva and Tasi. For some reason not stated, Tapuitea became wild, horns grew out of her head, and she took to cannibal practices. After she had eaten a number of Fijians, her two sons, worried that they might be next on the menu, fled to Samoa. But Tapuitea pursued them, and Tasi became so frightened that he got Toiva to bury him alive. Eventually Tapuitea caught up with Toiva, but instead of eating him she declared that from then on she was going to give up cannibalism and go up to the heavens, never to return. Thus she became Tapuitea, the planet Venus, and she promised always to shine down on Toiva as the Evening Star to give him light for his evening meal, and again as the Morning Star to help him catch pigeons.

Quite what this tale of cannibalism has to do with Venus hurling down burning naphtha and meteorites in 1500 B.C. is something of a mystery.

Velikovsky claims that another reference to Venus as a horned planet is to be found in the *Hymns of the Atharva Veda.* Here, he assures us, the planet Venus is compared to a bull: "As a bull thou hurlest thy fire upon earth and heaven."

This quote comes from the so-called "Hymn to the Honey Lash,"[14] but it does not refer to the planet Venus, as Velikovsky claims. It occurs, instead, in the following meteorological context:

> The thunder is thy voice, O Pragapati; as a bull thou hurlest thy fire upon the earth. From the fire, and from the wind and honey-lash hath verily sprung, the strong child of the Maruts.

Now Pragapati is not Venus but the father of gods and men, the creator of heaven and earth. Here he appears in a meteorological setting—his voice is the thunder, and his fire, presumably, the lightning. Certainly the Maruts are storm gods, and it appears fairly likely that the honey lash is connected with rain. Thus the burning naphtha of a horned Venus comet doesn't enter into it. Venus is innocent, yet again.

The world has suffered an untold number of disasters in its history —earthquakes, volcanoes, hurricanes and floods—and it is hardly surprising that such titantic forces find a place in world mythology. Whether or not the world has ever suffered a truly global disaster of the magnitude claimed by Velikovsky is quite another matter. Personally I am skeptical of such claims, though the issue is open to debate, I think; and I refer the reader to *Velikovsky's Sources* for some of the arguments involved here. What seems to me to be quite clearly misguided, though, is Velikovsky's notion that such a global disaster was ever induced by the planet Venus (or, for that matter, by the planet Mars).

Notes

1. E. T. Hamy, *Codex Telleriano-Remensis*, Paris, 1899, pp. 43, 45.
2. F. H. A. von Humboldt, *Researches Concerning the Institutions and Monuments of the Ancient Inhabitants of America*, 2 vols., London, 1814, vol. 2, p. 174.
3. I. Scheftelowitz, *Die Zeit als Schicksalgottheit in der iranischen religion*, 1929, p. 4.
4. Manmatha Nath Dutt (translator), *The Mahabharata*, vi. 3.15, Calcutta, 1897.
5. Shabbath 156a. See Rabbi Freedman's translation in the Soncino Press edition of the Talmud, 1938.
6. M. Jastrow, *Religious Belief in Babylonia and Assyria*, 1911, p. 221.
7. Pliny's *Natural History*, ii.23
8. "A Cometary Venus" *Journal of the British Astronomical Association*, June 1948, p. 195.
9. D. D. Luckenbill, *Ancient Records of Assyria and Babylonia*, 1926, vol. 2, sec. 829.
10. J. H. Breasted, *Ancient Records of Egypt*, 1906, vol. 3, sec. 117.
11. "Numbers," Midrash Rabbah. See J. J. Slotki's translation, Soncino Press, 1939.

12. W. C. Rufus and Hsing-Chih Tien, *The Soochow Astronomical Chart*, 1945, p. 5.

13. R. W. Williamson, *Religious and Cosmic Beliefs of Central Polynesia*, 1933, vol. 1, p. 128.

14. "Hymn to the Honey Lash," *Hymns of the Atharva Veda*, translated by M. Bloomfield, 1897, Sacred Books of the East, vol. 42, p. 229 ff. •

Book Reviews

D. D. Home-Sweet-Home and Other Delusions

The Spiritualists: The Passion for the Occult in the Nineteenth and Twentieth Centuries. By Ruth Brandon. Alfred A. Knopf, New York, 1983. 315 pp. $16.95.

Reviewed by Martin Gardner

Thousands of books about spiritualism have been written by believers, skeptics, and fence-sitters, but none so convincingly as this demonstrates the unbelievable ease with which persons of the highest intelligence can be flimflammed by the crudest of psychic frauds. Drawing on rare volumes and obscure articles, Ruth Brandon has skillfully interlaced the highlights of a history so sordid and fantastic that one finishes her book with an overwhelming sense of the futility of all efforts to expose fraud. "It is like punching a feather pillow," she writes, "an indentation is made, but soon refills, and the whole soft, spongy mass continues as before."

The book opens, as all such histories must, with the sad saga of the three Fox sisters. Leah, the oldest, was the "tigress" who dominated the others, ran the show, and died wealthy. Kate and Maggie ended their lives as miserable alcoholics whose bodies now molder in paupers' graves in Brooklyn. Before they died, both Kate and Maggie declared themselves charlatans. To a packed house at the Brooklyn Academy of Music, Maggie demonstrated how easily she produced spirit raps by cracking an abnormal joint of her toe. Later, she wrote an incoherent recantation.

Maggie's lover was a wealthy Arctic explorer and physician, Dr. Elisha Kane. After his death, Maggie published a book of his love letters and described their "secret marriage." Kane, who knew the sisters were cheats, constantly urged Maggie to abandon her detestable trade. Brandon reprints part of a prophetic letter from Kane to Kate, expressing his disgust:

Martin Gardner's latest books are Order and Surprise *(Prometheus) and* The Whys of a Philosophical Scrivener *(Morrow).*

> Now, Katy, although you and Maggie never go so far as this, yet circumstances must occur where you have to lacerate the feelings of other people . . . You do things now which you would never have dreamed of doing years ago; and there will come a time when you will be worse than Mrs. Fish [Leah], a hardened woman, gathering around you victims of a delusion.

Alas, as Brandon makes clear, deceiving the gullible was the only way poor Kate and Maggie knew how to make a living.

Brandon's next chapter, about the greatest of all mediums, D. D. Home, contains a marvelous account of how Home captured the mind of Elizabeth Browning—though not the mind of Robert—and almost destroyed their marriage. From the archives of Yale, Brandon has unearthed a remarkable letter in which Browning describes a seance with the Scottish medium that he and his wife attended. First came the rappings and table wobbling, then the lamp was extinguished and, in Browning's words, one could see "nothing of what was done at the table—the night being cloudy." It was Home's practice to begin his seances in a lit room, then darken the room for the more startling phenomena. Why spirits prefer to operate in darkness has always been difficult for spiritualists to explain, though magicians understand it quite well!

Sitters were touched by spirit fingers. A snow-white hand lifted a wreath of flowers from the table and put it on Elizabeth's head. Home picked up what today is called a concertina, holding it below the table with one hand at the end opposite the keys, while it wheezed some simple tunes. Browning noticed Home's loose clothes, sacklike overcoat, and "inordinate sleeves." "On the whole," he wrote, "I thought the whole performance most clumsy." After speculating on how the hands could have operated, he sensibly adds: "There are probably fifty more ingenious methods at the service of every prestidigitateur."

Home's accordion bit was one of his specialties. Brandon considers the possibility of an accomplice playing another concertina, or the use of a concealed music box, but I think James Randi has hit on the most likely method. Among Home's effects were found several miniature mouth organs of the sort vaudevillians often put inside their mouths and play. Home's two favorite tunes were *Home Sweet Home* and *The Last Rose of Summer* (his spirits had a limited repertoire), both easily rendered on the eight notes of these tiny instruments.

Home was exceedingly vain, but lovable, good-looking, charming, and muscular, though he professed to have "no strength at all." He affected the manners of a child, bewildered by the source of his strange powers. It is easy to understand why he was never caught cheating. No medium was ever more cautious in refusing to produce phenomena unless certain that no "sitter" knew anything about methods of deception. During the seance Browning attended, five sitters were ejected from the circle at the request of spirit rappings. As always, the fact that nothing whatever occurred at numerous seances was taken by believers to be proof of Home's genuineness.

Although many books have been written about Home's life, including one by himself and another by his second wife, he remains, in Brandon's words, a "mysterious and shadowy figure," like the protagonist of "a badly-written novel." Episodes in this novel include his abrupt conversion to Catholicism, his quickly abandoned decision to enter a monastery, efforts to gain recognition as a sculptor, a brief career as a stage reciter, his expulsion from Rome as a "sorcerer," and

his sudden departure from Paris for reasons still unclear. He was admired by Napoleon and the czar of Russia. His first marriage was to a wealthy Russian aristocrat who died a few years later.

In London, Home met a rich, childless, addlepated widow who was crackers about spiritualism. Home's discarnates instructed her to adopt him as a son and give him 60,000 pounds. She later decided the young man was trying to fleece her. He was arrested, and after a bitter court-battle the judge ruled in the old lady's favor, describing her as "saturated with delusion." It is amusing to read in Conan Doyle's account of Home that he believed Home to have acted throughout this sleazy episode with exemplary morality. Home's second wife was another Russian aristocrat, even wealthier than the first. Little is known about the last ten years of his life before he died in France in 1886.

Brandon is devastating in picturing the boundless gullibility of such distinguished scientists as Sir William Crookes, Alfred Russel Wallace, Oliver Lodge, and Charles Richet. There is a splendid account of the friendship between Doyle and Houdini, and how it fell apart when Houdini refused to accept as genuine a sentimental message that his dead mother supposedly dictated to Mrs. Doyle. Other colorful sections tell of such famous mountebanks as Eusapia Palladino, the uncouth little Italian woman who was once married to a magician, and Eva C., a famous lesbian sensitive who liked to work naked and exude ectoplasm from her vagina. When some spirit faces on photographs of Eva's seances were found to be identical with those in a French magazine, believers were no more dismayed than was Jule Eisenbud when some "thoughtographs" of psychic Ted Serios proved to be copies of *National Geographic* illustrations. Eva's faces were "idoplasts," claimed one prominent psi researcher, projected onto the film by Eva's memory of what she had seen in the magazine.

Such imbecilic rationalizations are still with us. Brian Inglis, a British paranormalist who blasted Brandon's book in the *Journal of the Society for Psychical Research* and in recent interviews with British reporters, once considered the charge by two scientists that they had seen Palladino using her feet, rather than psychic "pseudopods," to produce manifestations. "It was far from certain," Brandon quotes from a book by Inglis, "that what had been described as 'feet' were Eusapia's feet . . . given the possibility that she could produce psychic elongations, the experiments were simply not designed to distinguish between them and her arms and feet." In brief, the scientists may have only thought they saw her feet!

It is all so dreary and infantile. Brandon quotes a famous remark by T. H. Huxley that says it all: "The only good I can see in the demonstration of the 'Truth of Spiritualism' is to furnish an additional argument against suicide. Better live a crossing-sweeper, than die and be made to talk twaddle by a medium hired at a guinea a seance." •

A Time To Talk Sense About UFOs

UFOs—The Public Deceived. By Philip J. Klass. Prometheus Books, Buffalo, N.Y., 1983. 310 pp. $17.95.

Reviewed by Elmer Kral

For many centuries, the subject of intelligent life elsewhere in the universe has intrigued writers, theoreticians, and laymen. Since World War II, however, nearly everyone has become curious about the subject, and the rhetoric in some quarters has gradually moved from curiosity to speculation to belief that intelligent beings not only exist elsewhere but that they have already visited us. A Gallup poll in mid-1978, for example, revealed that 57 percent of adult Americans believe that UFOs are "real."

Is this belief justified or is it a myth? On the surface, it would appear that there is some basis for it. The worldwide scientific community generally agrees that the search for intelligent life elsewhere is a legitimate, though low-priority activity. Rational citizens are persuaded by the argument that if our civilization can send astronauts to the moon and spacecraft beyond, then technologically advanced civilizations could very well send explorers to our neighborhood of the universe. And much of the UFO and other popular literature has asserted for over thirty years that we have been visited.

In reality, it is a myth. While almost all scientists concede that there is at least a mathematical possibility that intelligent life may exist elsewhere, several scientists and other professionals since at least 1953 have convincingly refuted the assertion that UFOs represent alien spacecraft, beings from another "dimension," or something genuinely new to science. Most prominent among them are Donald H. Menzel and Edward U. Condon.

The latest to do so in convincing fashion is Philip J. Klass, author of the recently published *UFOs—The Public Deceived.* A respected senior avionics editor of *Aviation Week and Space Technology*, a founding member of CSICOP, and author of two previous UFO books—*UFOs Identified* (Random House, 1968) and *UFOs Explained* (Random House/Vintage, 1974), Klass has been a leading investigator of UFO reports and an authority on the subject for almost two decades.

In his new book, he provides prosaic explanations for the major UFO reports and events since his earlier books, including the so-called "best cases" advanced by many UFO proponents, and confirms his previous findings that the belief is a myth. He also argues that this myth is being kept alive by those eager to promote belief in UFOs, aided by some members of the news media who do not investigate thoroughly before publicizing extraordinary claims.

The arguments in *UFOs—The Public Deceived* are presented throughout

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the 31 chapters, or 310 pages hardbound, by means of thorough, detailed explanations and analyses with full documentation in the text and in a separate section of 22 photographs/illustrations, and are presented in a style accessible to any layman who possesses the ability to read at the high school level or for anyone familiar with the subject. Intertwined with the explanations are revelations of the methods and ethics of many of the major promoters of the UFO myth and relevant historical information that provides the reader with a 30-year evaluation of the entire subject.

In the first five chapters, Klass refutes the claims of the proponents that the CIA and other U.S. government agencies have withheld or covered up significant information about UFOs. In 1976, all of the Air Force Project Blue Book files were transferred to the National Archives in Washington, D.C., where microfilm copies of the roughly 80,000 pages of material, including photos, were made available without restrictions to anyone. In 1978, the CIA released nearly 1,000 documents under the Freedom of Information Act, and other agencies released many more. Klass quotes from CIA documents through mid-1976 that reveal there is no channel or working group on UFO reports in the intelligence community, and that the CIA's only involvement in the subject occurred in 1953, when from January 14 to 17 it convened the Robertson Panel, a five-member group of distinguished scientists whose findings caused the CIA to lose interest in the subject a few weeks later.

To date, the CIA has refused to declassify 57 pages, and the National Security Agency 135 pages, for security reasons. UFO proponents have not found evidence of coverup or wrongdoing in the material released thus far but claim, if the government could be forced to release these remaining 192 pages, they would reveal the government knows that UFOs are extraterrestrial craft. Klass asserts that the 192 pages could be withheld to protect the names of contacts within the USSR and elsewhere who helped U.S. agents determine in the early 1950s if UFOs might be a Soviet development. He argues that, if and when the U.S. government learns the earth has been visited, interested agencies will generate very many more pages of memoranda on the subject—probably thousands within a year—and that "it will be impossible to keep the startling fact from the public."

In Chapters 8 through 13, Klass reveals that the causes of the vast majority of UFO reports are misidentified natural phenomena and manmade objects, misunderstanding of the limitations of radar-electronic equipment, misunderstanding of changing atmospheric conditions and optics, unreliability of eyewitness testimony, and overactive imaginations. Jimmy Carter's formal report in 1973 of a UFO he sighted on January 6, 1969, turned out to be the planet Venus. In the late fall of 1975, UFOs reported near and over SAC bases in the U.S. and bases in Canada by military and civilian personnel were really stars and planets, a private helicopter, and perhaps meteors or even birds. In 1976, a UFO reported in central California was really a missile launched from Vandenberg AFB. In 1977, UFO reports in several metropolitan areas nationwide were caused by advertising planes. Klass also cites statistics from the Center for UFO Studies that reveal over 90 percent of the reports, many coming from law enforcement officers, are misidentifieds, 18 percent of which are advertising planes and 25 percent celestial objects. And he states that "UFO reports that prove to be IFOs show that intelligent people, including pilots, scientists, and law enforcement

officers, unwittingly embellish their accounts with inaccurate details and seeming cause-effects that are unrelated. It follows logically that similar inaccuracies in other UFO reports may prevent their explanations."

In Chapter 14, he explains that nighttime UFO reports of September 19, 1976, near Teheran, Iran, involving two Iranian Air Force jet fighters were likely caused by electrical-electronic equipment malfunction, lack of maintenance, inadequate pilot training for night missions, celestial objects, and a possible meteor from the Aquarids and Southern Piscids.

In Chapters 16 and 17, he reaffirms his previous explanation of the nighttime UFO report of October 18, 1973, by an Army helicopter crew near Mansfield, Ohio, as a result of pilot reaction under stress, normal radiocommunications difficulties, and most likely a meteor from the Orionids.

In Chapters 18 through 23, Klass explains the Travis Walton report of a UFO abduction of November 5, 1975, near Heber, Arizona, as a hoax.

In Chapter 24, he explains Deputy Sheriff Val Johnson's report of a nighttime UFO attack on his patrol car on August 27, 1979, near Warren, Minnesota, as a hoax.

In Chapters 25 through 27, he declares the nighttime UFO report of a civilian pilot, a television camera-crew, and others just after midnight on December 31, 1978, off the east coast of New Zealand near Wellington to be the "best-documented UFO incident of all time" because of 16 mm color-film, tape-recorded commentary, detection by radar-electronic equipment, and multiple independent witnesses. He then explains the report as the result of Japanese squid boat lights, celestial objects, misunderstanding of the limitations of radar-electronic equipment, and possibly ground lights. In this section, too, Klass reminds the reader that "many UFOlogists are not impressed by UFO reports that involve lights at night, especially when the lights remain essentially motionless, as in this incident, because they usually have prosaic explanations." This is borne out by the statistics he cites from the Center for UFO Studies, which reveal that 93 percent of 1,103 nocturnal-light cases investigated by Allan Hendry were found to have prosaic explanations, and of the remainder, only 1 percent were classified as "best nocturnal lights."

In Chapter 30, Klass explains the report of a crashed saucer on June 14, 1947, near Roswell, New Mexico (resurrected in 1980 by publication of a book by authors Charles Berlitz and William L. Moore), as debris of instrumentation from a crashed balloon-borne radar calibration device and a rumor/hoax, and the report of three crashed saucers in 1948 in New Mexico as a hoax.

The conclusion that Klass draws in his closing Chapter 31 is "that roughly 98 percent of all UFO reports are simply misidentifications of prosaic, if sometimes unfamiliar objects by basically honest observers and that the balance, roughly 2 percent, are self-delusions or hoaxes by persons who like to spin tall tales and become instant celebrities."

What about Klass's argument that the myth has been kept alive and the public deceived "by those eager to promote belief in UFOs, abetted by seemingly responsible news media that have shirked their responsibility to investigate thoroughly before publicizing extraordinary claims." What follows are some examples of case studies I have selected from the book. I leave it to the reader to interpret them.

- William G. Spaulding, director of the Phoenix-based Ground Saucer-

Watch Group, reported to the media that 1,000 pages of CIA documents reveal that UFOs exist and are real, that the U.S. government has been totally untruthful, and that the coverup is massive. The *New York Times* based a feature story, "CIA Papers Detail UFO Surveillance," published on January 14, 1979, on Spaulding's information. Several other major newspapers nationwide did the same. Tom Snyder interviewed Spaulding on the NBC-TV "Tomorrow" show on February 2, 1979, when Spaulding read selected quotes from CIA documents to support his interpretations and stated that "there are many, many other pages that we just wouldn't have time to read." (See Introduction and Chaps. 1-3.)

• Peter A. Sturrock, a Stanford University astrophysicist, a member of the American Astronomical Society (AAS), and an organizer of conferences to which UFO proponents, but not experienced skeptics, were invited, authorized a three-page press release from his institution announcing the results of his survey of 2,611 AAS members on the subject of UFO reports. The results of the five-choice responses to the question reveal 52 percent of the respondents favored study of "the UFO problem," 21 percent were opposed, and 27 percent responded "possibly." Klass's analysis of the study reveals that "the collective view of all 1,356 AAS respondents was that the probability that a UFO sighting might involve an extraterrestrial craft was only 3 percent—the lowest figure of any of eight options" and that "only 7 of the 1,356 respondents indicated they were actively working in the field of UFOlogy." Based on Sturrock's press release, the *New York Times* titled an article on March 17, 1977, "Further Study on UFOs Endorsed in a Survey," and the *Christian Science Monitor* titled a story on April 27, 1977, "Probe UFO Riddle, Say Astronomers." Since then, Sturrock has organized a new group, named the Society for Scientific Exploration, whose members, Klass believes, will make the same mistakes their predecessor UFO proponents did. (See Chaps. 7 and 30.)

• Todd Zechel, a UFO proponent who was instrumental in securing documents in 1978 under the FOIA, talked with staff writer Michael Satchell, who wrote the article "UFO's vs. USAF—Amazing (But True) Encounters," published on December 10, 1978, by *Parade* magazine, which has a Sunday circulation of tens of millions, even though Satchell claimed to Klass that he did not bother to talk to an experienced skeptic for the same reason he would not talk to a Hynek, a Zechel, or an Acuff. Klass notes that Satchell's article described a rash of UFO reports from October 27 to November 19, 1975, over SAC bases and bases in Canada (all occurring after the NBC-TV movie on the Betty and Barney Hill UFO abduction report was telecast on October 20, 1975) and concluded "What flew over . . . will probably never be fully explained." (See Chaps. 12, 13, and 31.)

• Experienced UFO proponents—such as J. Allen Hynek, Northwestern University; James A. Harder, University of California at Berkeley; Leo Sprinkle, University of Wyoming; and Frank Salisbury, Utah State University—serve on the so-called Blue Ribbon Panel that annually determines the "best case of the year" for the *National Enquirer*, a supermarket tabloid that awards $5,000 to the original observer(s) of each "best case." Among those selected for the award have been the 1971 Delphos, Kansas, report, the 1973 Ohio helicopter report, the 1975 Travis Walton abduction report, and the 1976 Iranian jet-fighter report. (See Chaps. 14-18.)

• James Lorenzen, co-director of the Tucson-based Aerial Phenomena Re-

search Organization (APRO), withheld the information on a television interview of November 22, 1975, on KOOL-TV in Phoenix, that Walton had failed a secret polygraph test administered by the respected Arizona examiner John J. McCarthy on November 15, 1975, arranged by the *National Enquirer* and APRO. (Although McCarthy mailed the results of the test on November 16, 1975, to the *National Enquirer*, the tabloid announced in July 1976 that the Walton report was determined the "best case of 1975" by the Blue Ribbon Panel, one member of which was James Harder, an APRO investigator present at the November 15 lie-detector session. Lorenzen did not admit to the withheld information until after Klass sent a 17-page white paper in late June 1976 to the *Arizona Republic*, the *Star*, a competitor tabloid of the *Enquirer*, and the heads of Ground Saucer Watch (GSW), the National Investigations Committee of Aerial Phenomena (NICAP), MUFON, and APRO. In a later interview, in the July 23, 1977, *Tucson Daily Citizen*, Lorenzen is quoted as saying: "I believe he [Walton] was transported aboard some sort of craft. No one has come up with an alternative workable hypothesis." (See Chaps. 19-22.)

- The NBC-TV December 15, 1974, production entitled "UFOs--Do You Believe?" provided a vastly greater amount of time to the proponents' viewpoint. ABC-TV's "Good Morning America" and "Good Night America" carried a number of interviews with UFO claimants but did not usually arrange for skeptics to appear. Only CBS-TV has shown restraint and even-handedness in its treatment of UFO issues. (See Chap. 28.)
- Leo Sprinkle, who uses hypnosis in his investigations of abduction reports, acknowledged the validity of the international authority Martin T. Orne's views regarding safeguards for the forensic use of hypnosis published in "The Use and Misuse of Hypnosis in Court" in the *International Journal of Clinical and Experimental Hypnosis* (October 1979), but argued that "they were not appropriate for use in UFO cases because there is 'no crime, no criminal, no victum.' " (See Chap. 29.)
- Physicist Bruce Maccabee, head of the Fund for UFO Research in Silver Spring, Maryland, wrote a sympathetic review of the Berlitz-Moore 1980 book about a crashed saucer story. He was the only one of three UFO proponents at a UFO symposium held in Washington, D.C. on September 6, 1980, to admit support for the extraterrestrials-from-crashed-spacecraft hypothesis by saying, "Speaking for myself, I have no direct evidence, but I wouldn't be surprised." (See Chap. 30.)

The conclusion Klass draws from the efforts of those eager to keep the UFO myth alive is best summed up by the title of his final chapter, taken from Louis Pasteur's 1854 warning addressed to scientists: "The greatest derangement of the mind is to believe in something because one wishes it to be so." The conclusion Klass draws about the entire UFO phenomenon is stated in his introduction: "For much too long, the public has been misled by half-truths, by coverup, and by outright falsehoods ... it is time to talk sense to the public about unidentified flying objects."

I think Philip Klass does indeed "talk sense." As a former field investigator for a pro-UFO group, as a former sympathetic who in the past ten years has gradually become a skeptic on the subject, and as a person who values the scientific method, logical reasoning, and integrity in our society, I can testify to this. Pro-UFO groups are basically self-interest groups; a variety of people are

using them and the myth for profit and for fame; and too many members of the news media do not handle controversial issues responsibly or intelligently. As a result, everyone, including individuals of high competence and integrity, loses credibility, and the public has difficulty in finding a source to turn to that offers complete, reliable, and accurate knowledge on this issue.

Fortunately, the work of one great authority is far more useful to society than the efforts of ten thousand dabblers of mediocrity. While *UFOs—The Public Deceived* does have three or four chapters that could be organized more clearly and five or six paragraphs that contain some humor that a few readers may misinterpret, it is a book of substance and integrity and accurate knowledge that should be placed on the shelf of every library, not only in the United States but in all the countries of the world, alongside the UFO books of the late eminent scientists Donald H. Menzel and Edward U. Condon.

Every citizen in every walk of life ought to read it an re-read it periodically to further their education and to gain an antidote for credulity. •

A Sympathetic Critic's Report

UFOs and Outer-Space Mysteries. By James E. Oberg. The Donning Company Publishers, Norfolk, Va., 1983. 192 pp. $6.95. Paper.

Reviewed by F. C. Durant III

The subtitle of *UFOs and Outer-Space Mysteries* is *A Sympathetic Skeptic's Report.* I liked that, for it fits the author's personal manner and style of writing. James Oberg is well known to readers of this periodical as a Fellow of CSICOP. He has professional strength in mathematics, computers, the Russian language, and space programs. Oberg is straightforward, firm in exposure of fraud, self-delusion, and misperception; never ascerbic or bitter.

UFOs & Outer-Space Mysteries is a collection of nine essays, all but one of which have appeared in periodicals, including the SKEPTICAL INQUIRER.

The book is divided into two parts. The chapters in Part I are titled: "UFOs and the Age of Space"; "Close Encounters—Fact or Fiction"; "The Apollo 11 UFO Incidents"; "Myths and Mysteries of the Moon"; and "The UFO Hoax in Perspective."

"Close Encounters" treats the Pascagoula, Betty Hill, and Travis Walton

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escapades, as well as delusions and hoaxes in general. Oberg points out that fear of potential libel and defamation suits has hampered skeptical investigators. They must be cautious in labeling personal statements as out-and-out lies, thus limiting observations to obtuse or oblique generalities.

Chapters three and four are reports of Oberg's personal research. These stand as excellent summaries of his successful investigating and debunking of UFO sightings by astronauts and NASA "censorship," "conspiracy," and "cover-up." Chapter five treats hoaxes and photographs, as well as the "controlled" experiment by English physicist David I. Simpson (see SKEPTICAL INQUIRER, Spring 1980).

Part 2 contains four chapters: "The Sirius Mystery," "The Tunguska Echoes," "The Mystery of Russia's Missing Cosmonauts," and "The 'Jellyfish UFO' Dilemma."

The first two of these summarize and puncture the myths of the Dogon tribesmen of Mali (West Africa) and the "nuclear UFO" explanation of the Tunguska incident.

"The Mystery of Russia's Missing Cosmonauts" is a report of Oberg's study and identification of Soviet photographs. In the USSR the identification of cosmonauts generally comes after they have flown a mission. Oberg has made a careful study of photographs released by the Soviets. He found some prints that had been retouched to eliminate unidentified individuals who were in the cosmonaut pool. No explanation was given by the Soviets. Oberg's study of this deception is fascinating and intriguing, although it does seem on the borderline of both UFOs and outer-space mysteries.

The "Jellyfish UFO" chapter is a splendid example of Oberg's investigative technique. The phenomenon observed turns out to be luminescent contrails of a Soviet satellite-launching from the secret military launch-site in Plesetsk. Occasionally, on cloudless predawn launchings, rocket exhaust contrails are observable from Sweden and Finland, as well as from within the Soviet Union. For years, reports of these sightings were exploited and enlarged upon by the regular purveyors of lurid UFO stories. Comments from Moscow at that time were, as might be expected, unforthcoming.

In fact, there is good evidence that Oberg's articles linking UFOs to the Plesetsk launch-site recently prompted the first Soviet announcement of even the existence of the facility. The June 20, 1983, issue of *Pravda* carries an article on its history. Like the USAF Vandenberg Air Force Base in California, Plesetsk is used for launchings at high angles of inclination. Also, like Vandenberg, the facility contains silos for ICBMs. This official Soviet confirmation of Oberg's investigation is most satisfying.

UFOs and Outer-Space Mysteries is readable and enjoyable. Technical explanations are straightforward and easily understood. It is a fine book for the layman and is strongly recommended for students to counter the flood of sensational literature on the subject. •

Nessie and the Eyewitness Problem

The Loch Ness Mystery Solved. By Ronald Binns with R. J. Bell. Open Books, Shepton Mallet, Somerset, England, 1983. xii + 228 pp. £7.95.

Reviewed by Douglas Payne

The Loch Ness monster was born in the *Inverness Courier* in May 1933. An animal that, despite its humble beginnings in a small Scottish newspaper, was destined to become one of the most famous aquatic mysteries of modern times and one that 50 years later still arouses considerable interest in believers and nonbelievers alike. Having survived a half-century of invasion from journalists, free-lance investigators, scientists, and cranks who have been buttressed by an array of technological paraphernalia, including gyrocopters, submarines, blimps, underwater cameras, and sonar scanners, this elusive creature remains untouched, aloof, and as irritatingly enigmatic as ever. It is therefore timely that a reassessment of the Loch Ness phenomenon should appear, and one that examines in some detail the historic roots of the mystery and so puts the more contemporary era of investigation and controversy into clear perspective.

The Loch Ness Mystery Solved is such a book, providing as it does a descriptive history of the search for the monster and an evaluation of the evidence gained thus far. Its main point of departure from other books, however, lies in its analytical descriptions of the earliest sightings and investigations as well as a thoroughgoing examination of the so-called tradition of the loch and its famous inhabitant. This tradition, which is so fondly expounded by popular writers, has two distinct elements. First, it states that there is a history of the Loch Ness monster going back over a thousand years and, second, it states that the relative scarcity of the early reports (i.e., pre-twentieth century) is explained by the loch's inaccessibility and isolation from the eyes of man. These beliefs are squarely challenged here.

An analysis of the few pre-1933 sighting reports only too clearly reveals their poor quality and doubtful authenticity compared with later ones. The pre-1900 reports that are so often used to present a convincing monster tradition are given an extensive review and are found to contribute an amazingly deficient body of knowledge. The history of the monster is often described as proceeding from neolithic carvings, through St. Columba's famous sixth-century confrontation, to later sporadic reports of the sixteenth, seventeenth, and eighteenth centuries. The authors, Ronald Binns and R. J. Bell, found that none of these reports stood up to detailed scrutiny. Those familiar culprits—misinterpretation, distortion, and wishful thinking—were variously accountable for their inclusion in the monster record. There was even one aspect of the tradition, an alleged reference to "Leviathans" in the loch made by Daniel Defoe in the eighteenth century that,

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WINTER 1979-80 (vol. 4, no. 2): The "Mars effect" and sports champions—articles *by Paul Kurtz, Marvin Zelen, and George Abell; Dennis Rawlins; Michel and Francoise Gauquelin* — How I was debunked *by Piet Hein Hoebens*, The extraordinary metal bending of Professor Taylor *by Martin Gardner*, Science, intuition, and ESP *by Gary Bauslaugh*. ($5.00)

FALL 1979 (vol. 4, no. 1): A test of dowsing abilities *by James Randi*, Science and evolution *by Laurie R. Godfrey*, Television pseudo-documentaries *by William Sims Bainbridge*, New disciples of the paranormal *by Paul Kurtz*, UFO or UAA *by Anthony Standen*, The lost panda *by Hans van Kampen*, Edgar Cayce *by James Randi*. ($5.00)

SUMMER 1979 (vol. 3, no.4): The moon's effect on the birthrate *by George O. Abell and Bennett Greenspan*, A critical review of biorhythm theory *by Terence M. Hines*, "Cold reading" revisited *by James Randi*, Teacher, student, and reports of the paranormal *by Elmer Kral*, Encounter with a sorcerer *by John Sack*. ($5.00)

SPRING 1979 (vol. 3, no. 3): Psychology and near-death experiences *by James E. Alcock*, Television tests of Musuaki Kiyota *by Christopher Scott and Michael Hutchinson*, The conversion of J. Allen Hynek *by Philip J. Klass*, Asimov's corollary *by Isaac Isimov*. ($5.00)

WINTER 1978 (vol. 3, no. 1): Is parapsycholgy a science? *by Paul Kurtz*, Chariots of the gullible *by W. S. Bainbridge*, The Tunguska event *by James Oberg*, Space travel in Bronze Age China *by David N. Keightley* ($5.00)

FALL 1978 (vol. 3, no. 1): An empirical test of astrology *by R. W. Bastedo*, Astronauts and UFO's *by James Oberg*, Sleight of tongue *by Ronald A. Schwartz*, The Sirius "mystery" *by Ian Ridpath*. ($5.00)

SPRING/SUMMER 1978 (vol. 2, no. 2): Tests of three psychics *by James Randi*, Biorhythms *by W. S. Bainbridge*, Plant perception *by John M. Kmetz*, Anthropology beyond the fringe *by John Cole*, NASA and UFOs *by Philip Klass*, A second Einstein ESP letter *by Martin Gardner*. ($7.50)

FALL/WINTER 1977 (vol. 2, no. 1): Von Daniken *by Ronald D. Story*, The Bermuda Triangle *by Larry Kusche*, Pseudoscience at Science Digest *by James E. Oberg and Robert Sheaffer*, Einstein and ESP *by Martin Gardner*, N-rays and UFOs *by Philip J. Klass*, Secrets of the psychics *by Dennis Rawlins*. ($7.50)

SPRING/SUMMER 1977 (vol. 1, no. 2): Uri Geller *by David Marks and Richard Kammann*, Cold reading *by Ray Hyman*, Transcendental Meditation *by Eric Woodrum*, A statistical test of astrology *by John D. McGervey*, Cattle mutilations *by James R. Stewart*. ($7.50)

FALL/WINTER 1976 (vol. 1, no. 1): Dianetics *by Roy Wallis*, Psychics and clairvoyance *by Gary Alan Fine*, "Objections to Astrolgy" *by Ron Westrum*, Astronomers and astrophysicists as critics of astrology *by Paul Kurtz and Lee Nisbet*, Biorhythms and sports performances *by A. James Fix*, Von Daniken's chariots *by John T. Omohundro*. ($7.50)

suggest the authors, no one has been able to identify.

The tradition of Loch Ness is also challenged by the effective, albeit dangerous, use of negative evidence. Thus it is suggested that there has been no mention of the monster by people who might have been expected to say something about it. The owners and occupiers of the lochside's Urquhart Castle, from whom the earliest writing dates from 1297; the roadbuilders, both military and civil, from about 1732; the Caledonian canal-builders whose activities centered on Loch Ness around 1820; the Victorian tourists—the loch was quite a scenic attraction during the nineteenth century; famous visitors like Dr. Johnson and Boswell, Robert Burns, and Aleister Crowley; the staff of the Research Department of the Royal Geographical Society, who investigated the loch's geography and natural history during 1903 and 1904. The list goes on and on. The image of the Loch Ness monster slumbering undisturbed until the "opening up" of the region during the early part of this century begins to lose credibility under the weight of this kind of evidence. In this connection the authors provide a fascinating illustration of post-hoc distortion adopted by some monster enthusiasts. It has been reported that the loch's north road was constructed only in 1933, thus permitting readier visual access to the monster and thus accounting for the burst of sightings from 1933 onward. The authors show that a northside road had in fact been in existence since the end of the eighteenth century. In 1933 it had been merely resurfaced and improved along certain sections.

If the tradition of Loch Ness thus suffers as a consequence of serious study, then what of the post-1933 evidence and the current status of the phenomenon? Unfortunately, it is in the nature of mysteries that they are incapable of satisfactory resolution, and the accumulated evidence for the monster of Loch Ness is, in this regard, unexceptional. The book's strength lies in its excellent documentation, through which is traced the more recent history of the monster story and from which emerges a qualitative analysis of the evidence gained so far, evidence that only a dyed-in-the-wool believer would find in any way convincing.

The photographic evidence consists of pictures that are often indistinct or lacking in detail and are always ambiguous and open to interpretation. Photographs recently discussed in this journal provide a good example of problems of interpretation (*SI*, Winter 1982-83, 42-46). Underwater cameras linked to sonar equipment produced a few photographs that at the time raised hopes for a speedy resolution of the problem in favor of Nessie. Alas, to an unbiased observer the pictures were uninterpretable. Movie film, considering the enormous effort to capture the creature on celluloid, is quite rare and of such poor quality as to be no more enlightening than the photographs. This was, in fact, a serious blow for many investigators who believed that good motion pictures of the monster would prove conclusive. Then there are the sonar scans, initially hailed as the technological breakthrough that investigators had been waiting for; in the event, they simply increased the heat of the controversy because of their sporadic and inconclusive results, which have been subject to such technical considerations as to render them useless as a reliable guide to the contents of the loch.

So, after dispensing with the technological approach we are left, as always, with one particular kind of evidence, which in the absence of definitive alternatives the authors suggest must constitute the backbone of the case—eyewitness testimony. To this they respond with a battery of unmysterious explanations—mirages, misperceptions of natural effects, objects, and animals, assisted by in-

dividual factors like witness expectation, excitement, and sometimes fatigue. Most important, a cultural milieu has been created around this subject within which the monster has been defined, described, and legitimized, and where sightings are socially acceptable and media-rewarded. Memory distortions, wishful thinking, and hyperbole, aided and abetted by sympathetic promptings from monster enthusiasts, provide the finishing touches.

It is to the author's credit that frauds and hoaxes, although mentioned, play only a small part in accounting for monster reports—they consider most witnesses to be sincere. Nevertheless, it is to be expected that believers will be left unsatisfied and unmoved by explanations amounting to misperception, memory distortion, and misreporting, and they will no doubt dismiss them as trite and grossly inadequate. To some extent one can sympathize with such a response—after all, the power of an unusual personal experience is understandably unyielding to rational alternatives that may appear to be mundane. I recall a few years ago attending a public lecture on the Loch Ness monster at Manchester University. The lecturer, a skeptic, described in some detail all the possible reasons why witnesses might be mistaken and how photographs of the monster were open to interpretation. Late into the proceedings an interruption was occasioned by a breakdown in the projection equipment and, while repairs were being effected, questions were invited from the audience. One member of the audience stood up and recounted in a loud, clear, and totally convincing manner a personal sighting of the monster. This person's testimony, contrasting as it did with the thrust of the lecture, left the rest of us almost holding our breath waiting for a reply from the dais. After a moment's silence, which successfully heightened the tension and dramatic effect, the speaker merely asked if anyone else had something to contribute. His skill in avoiding a face to face and inevitably fruitless confrontation with a committed believer was greeted with relieved laughter and much applause.

The eyewitness thus presents us with a knotty problem, and since we are all potential witnesses to anomalous phenomena the problem is universal. How can people be educated into a serious consideration of rational alternatives? This particular book, like many others of the skeptical variety, omits a discussion of the problem but provides a telling and instructive story of witness conversion. Henry Lee, who saw a sea serpent off Brighton beach in 1857, testified unequivocally. This particular witness, however, was different from most. He became a marine biologist and twenty-seven years later he published a reevaluation of his experience and offered a more realistic, if less sensational, interpretation of what he had seen. It is quite possible that, if his career had taken other directions and thus precluded his education in the alternatives, he might never have changed his belief in sea monsters.

Although this story provides us with an example of the triumph of education over personal experience, it implies, somewhat depressingly, a large imbalance in the amount of education required. Let us hope that general attitudes toward so-called anomalies in general, and water monsters in particular, are more readily amenable to the mundane but more probable explanations. This book should help in that endeavor; for, although it is not explicit on the point, it presents the reader with a choice. Does he accept as more probable the likelihood that witnesses, in being subject to conditions conducive to spurious monster sightings, have simply been mistaken or extravagant in their reports, or does he accept as more probable the likelihood of the existence in Loch Ness of an

unknown animal whose ancestry fails to exhibit a convincing pedigree and for whom hard evidence has failed to materialize even after years of diligent investigation? The Scottish Tourist Board will not like this book. •

Mirror on Naive Protocol

Know Your Own Psi-Q. By Hans Eysenck and Carl Sargent. World Almanac Publications, New York, 1984. 176 pp.

Reviewed by James Randi

The American edition of *Know Your Own Psi-Q*, a U.K. original, is published by World Almanac Publications. In 1978, George E. Delury, then editor of *The World Almanac*, consulted CSICOP when preparing the *Book of the Strange*. The result (see Book Reviews, *SI*, Summer 1978) was a well-tempered account of a varied selection of claimed wonders. Were this gentleman still the editor, I doubt that publication of the U.S. edition of this Eysenck-Sargent effort would have been undertaken by World Almanac.

The book is a disaster in every way except one: It may provide us with an accurate picture of just how naive the authors are in designing proper protocol for testing of psi-powers. If their book correctly expresses the standards of parapsychologists in general, it is no wonder that the rest of the scientific community scoffs at their efforts.

In a section called "Psi Stars" the authors gush over the claimed miracles of D. D. Home, whose career—details of which are safely blurred by decades of elapsed time—is meant to inspire their readers with the wonders they hope to establish. Then they blantantly introduce modern "Psi-Star" Bill Delmore, saying, ". . . Delmore was successful with everything thrown at him. It's normal for researchers, given such a Psi-Star, to state that the odds against his score being due to chance are so many billions to one; but with Delmore, it's not worth bothering, for the word 'billion' would have to be repeated too many times." They conveniently forget to mention that prominent statistician (and accomplished card-conjuror) Persi Diaconis of Stanford University witnessed a session at Harvard in which Delmore performed informally some of the "controlled" tests that had earned him a reputation among the parapsychologists as well as a grant from Harvard University "to explore the nature of his own psychic ability." Diaconis found Delmore using the standard methods of card cheats and some obvious ploys quite familiar to conjurors, to deceive the observers. Yet Eysenck and Sargent enshrine him as a "Psi-Star."

Another superstar they drag out of obscurity is the well-discredited Jean-Paul Girard, a French conjuror who stated long ago that he would use his

sleight-of-hand to demonstrate that dedicated believers among the scientists could be and would be fooled. They were—even after Girard failed a definitive set of tests (see *SI*, Winter 1978). But these authors still accept him as genuine, and so present him to their readers.

Incredibly enough, these two Ph.D.'s were unable to see a rather basic statistical problem with a quite simple test they suggest in their book. It involves playing cards, and the subjects are required to guess only the color (red or black) of each card. Now the chances of doing this—by chance alone, without psi power—are ordinarily one in two, or 50 percent. Certain variances from this result become significant, and tables are provided by the authors to determine whether no, some, good, or excellent psi results are thus obtained. But in this test, the authors instruct the experimenter: "Tell the subject whether they are right or wrong." It is obvious even to the amateur observer that providing such feedback can increase the chance expectation. Each time the subject knows the color of a discard, information is available about the remaining cards. (In the case of the Zener ESP cards, where five of each of five different symbols are used, Diaconis tells us that if the subject is told what each card is after guessing it, the chance expectation jumps from 5 in 25 to 8.65 in 25!)

There is an almost total lack of basic experimental caveats in the book. Even when one is provided—"Treat all the subjects the same way"—it is canceled out by the statement, " . . . unless any of them are vehement that they really don't *want* this circumstance." One of the most obvious pitfalls—optional stopping—is even condoned for use by the reader. "Try and fix the number of guessers to be tested in advance of the experiment, but if it really isn't possible to test as many as you would have liked, then stop when convenient." That "convenient" time might also be just when the guesser is ahead, too. The only proper treatment of aborted tests is to throw them out, but the authors remind us that this is not a "controlled laboratory study." In that case, it is a child's game that could have been properly designed to be much more than that. It is, unfortunately, rather typical of much "controlled" work in parapsychology—particularly some that involved one of these two authors.

In Game No. 8, *Know Your Own Psi-Q* outlines a direct test (odds: one in two) that involves pictures of human males and females. Aside from the fact that there are no instructions about what the subject should be told concerning the possible ratio of male/female identities, this test seems fairly good. But instruction number three is revealing of the methodology that damns such tests when done in laboratories. It says: "The experimenter hands the envelopes one by one to the subject, who guesses the sex of the people in the pictures, taking as much time as necessary. The experimenter then writes down *any impressions that the subject may have.*" (Italics added.) In a simple test, essentially a heads-or-tails matter, the authors have thrown in an extraneous factor that provides a tempting opportunity to extend, amplify, and save any mediocre results. Suppose a photo of Clark Gable is the target. The subject guesses "male" and goes on to say that he sees a mustache as well. How is that evaluated? Certainly it is a "hit" and is scored as such. But do we throw an extra point in for the mustache? We aren't told. And suppose that for the same target the guess is "female" and long, blond hair is included in the description. The guess is a "miss," but do we ignore the hair, or count it against the score? Such peripheral information has no place in a proper test, ever.

The "Computer Programs" section of the book consists of some interesting software treatments of psi-testing that if stripped of some of the juvenile scenarios could be useful.

Finally, in the bibliography, Eysenck and Sargent provide us with two and one-half pages of pro-paranormal journals, books, and other material, but not one skeptical work is made available to the reader. This clearly expresses the intent of the book, whether conscious or not: It is designed to give a totally one-sided view of the subject and to lead the reader to believe, as a result of faulty and biased testing procedures, that he himself has psychic powers. Given the tastes of the public, it will probably be quite successful in that respect. But I feel that the World Almanac publishers will be embarrassed by this book. •

Some Recent Books

Listing here does not preclude more detailed review in a future issue.

MacDougall, Curtis D. *Superstition and the Press.* Prometheus Books, Buffalo, N.Y., 615 pp. $29.95, cloth; $16.95, paper. Everything you want to know about what the major daily newspapers have said about the paranormal in recent years. An exhaustive, comprehensive compilation, by a noted journalism educator, of news coverage on twenty-seven paranormal and fringe-science subjects from astrology and artifacts to UFOs and witchcraft. MacDougall's treatment is extensive rather than intensive—most summaries are only a paragraph or two. His style is matter of fact: there is a minimum of commentary and interpretation. The latter lack is at times annoying, but as MacDougall says, "My purpose is only to record what a [newspaper] reader thinks he knows." More often than not what the reader learned was painfully short of the full truth. (For some of MacDougall's comments while this work was in progress see the Summer 1982 *SI*, p. 9.) A valuable source book for charting media coverage and tracking the history of hundreds of claims and controversies about the paranormal.

—*Kendrick Frazier*

Articles of Note

Baker, Robert A. "The Effect of Suggestion on Past-Lives Regression." *American Journal of Clinical Hypnosis.* 25(1):71-76, July 1982. Controlled exper-

iment with three groups of subjects demonstrates that suggestions supportive of age regression prior to hypnosis are reflected in the "memories" recalled. "The present study offers additional evidence that past lives regression phenomena rather than being examples of the 'reality' of reincarnation are, instead, the result of suggestions made by the hypnotist, expectations held by the subjects, and the demand characteristics of the hypnoidal relationship."

Brandon, Ruth. "Prestidigitations" (letter). *New Scientist*, July 14, 1983, p. 139. Brief but strong response to a criticism by Brian Inglis of her article "Scientists and the Supernormal" (June 16).

Clark, Jerome. "Scandal in the Spirit World." *Fate*, November 1983, pp. 64-67. Report on successful trap to catch British medium Paul McElhoney in act of fraud, and the reaction to the revelation. Two suspicious fellow spiritualists discovered McElhoney's séance props hidden inside his tape recorder. After this revelation in the April 9 *Psychic News* spiritualists directed their criticism not at McElhoney but at the trap-setters and at *Psychic News* for reporting the exposure.

Devereux, Paul, Paul McCartney, and Don Robins. "Bringing UFOs Down to Earth." *New Scientist*, Sept. 1, 1983, pp 627-630. Investigators contend that many reported UFO events near geological faults are due to earth lights. They suggest that the witnesses have seen natural luminescent phenomena. They propose that this light is caused not by the piezoelectric effect (the standard explanation for "earthquake lights") but by triboluminescence, the production of light when frictional forces cause electrons to jump to lower energy levels. Interesting, but one may question whether worldwide (their data is mainly from Britain) there really is any correlation between UFO reports and fault zones.

Forslund, S. "The Nature of the Beast." *Pacific Northwest*, March 1983, pp. 51-59. Detailed critical journalistic report on the latest, and perhaps most publicized, Sasquatch evidence.

Frichten, Catherine S., and Betty Sunerton. "Popular Horoscopes and the 'Barnum Effect.' " *Journal of Psychology*, 114:123-134, 1983. Studies of 366 college students find that daily and monthly astrological forecasts were unreliable and invalid. Some reliability in the matching of personality descriptions and zodiac signs was found due partly to knowledge of one's own sign. The results are explained by familiarity effects and the "Barnum effect." Just as P. T. Barnum made sure his circuses had "a little something for everybody," so do the preparers of horoscope personality descriptions.

Gardner, Martin. "CSICOP: Who and Why?" *Isaac Asimov's Science Fiction Magazine*, July 1983 (reprinted in Gardner's *Order and Surprise*, Prometheus Books, Buffalo, 1983). Discussion of difference between pseudoscience and science fiction leads into essay on the origin of CSICOP and the work of the SKEPTICAL INQUIRER.

Gardner, Martin. "The Number of the Beast." *Isaac Asimov's Science Fiction Magazine*, July 1983, pp. 22-26. Debunking of the number games numerologists indulge in to find the 666 symbol of the coming Antichrist in virtually everything.

Jennings, Jack A. " 'Christ's Image' on Shroud Probably a Pious Fraud." *Christian Century*, June 1, 1983. (Reprinted in *Des Moines Register*, June 26,

1983, p. 3C.) Remarkably frank article by a Presbyterian minister highly critical of pro-authenticity statements and media gullibility about the shroud. Jennings, in contrast to nearly every other writer on this subject, knows and supports the arguments of the critics who have portrayed the shroud claim as, in his words, "highly dubious, specious, or downright laughable." He tends to consider the pro-shroud publicity another example of "relic mongering" (fourteen "authentic" burial shrouds have been proposed over the centuries). "A healthy skepticism about the Shroud of Turin or any other relic seems wise."

Kitcher, Philip. "Darwin, the Bogeyman." *National Forum* (Phi Beta Kappa), Spring 1983. First article in a special section on matters of science, fringe-science, and human values. Other articles include "I Frame No Hypotheses" (about Newton and the difference between science and religion) by Richard Berendzen; "Science, Pseudoscience, and Anxiety" by Jeffry V. Mallow; "On the Separation of Church and Lab" by Patrick Grim; and "Humanism, Science, and Religion" by Paul Kurtz.

Krippner, Stanley. "The Wrong Source" (letter in "Science Times"). *New York Times*, Aug. 16, 1983. Parapsychologist corrects record about a misattribution to him of a comment about Randi's Project Alpha.

Meacham, William. "The Authentication of the Turin Shroud: An Issue in Archaeological Epistemology." *Current Anthropology* 24(3):283-94, June 1983. This article is not recommended; what *is* recommended are the commentaries about it immediately following (pp. 295-311). Criticisms are supplied by James E. Alcock, John R. Cole, Richard J. Dent, Walter McCrone, Paul C. Maloney, Marvin M. Mueller, Joe Nickell, and Steven Schafersman. There are also supporting comments from several pro-authenticity scientists and a lengthy reply by Meacham. A provocative package, although the balance is still tipped heavily toward belief.

Perry, James. M. "Run for Your Life! That Thing Could Be Loch Ness Monster." *Wall Street Journal*, Aug. 1, 1983, pp. 1, 6. Balanced report on the latest summer of monstermania in Scotland.

Randi, James. "Psience Research" (letter). *New Scientist*, July 28, 1983, p. 300. A response to "Magicians in the Laboratory: A New Role to Play" by Harry Collins, June 30, pp. 929-31. (See also Martin Gardner's column, this issue of *SI*.)

Russell, James, and Graham F. Wagstaff. "Extraversion, Neuroticism and Time of Birth." *Bulletin of the British Psychological Society*, 22:27-31 (1983). Study fails to replicate the findings of Mayo et al. that individuals' astrological sun signs are associated with extroversion and neuroticism scores. Russell and Wagstaff, in contrast to Mayo, controlled for the subjects' belief in astrology and for subjects' self-selection. This indicates that those factors accounted for Mayo's positive results.

Shiner, M. C., I. W. Kelly, and B. E. Zamulinski. "A Scientific Rebuttal to the Creationist Case Against Evolution." *Accelerator* (Saskatchewan Science Teacher's Society), 8(5):38-52, April 1983. Critiques creationists' main arguments point by point and contrasts with evolutionary theory.

Stringer, Chris. "Wanted: One Wildman, Dead or Alive." *New Scientist*, Aug. 11, 1983, p. 422. English primatologist reviews Myra Shackley's book *Wildmen: Yeti, Sasquatch and the Neanderthal Enigma* (London: Thames and

Hudson). "Certainly the most complete and arguably the most entertaining account of wildmen yet published. But it does not represent the thorough and objective analysis of the evidence necessary to convince more scientists that there are living but unknown hominoids behind the legends."

Tyson, G. A. "Why People Perceive Horoscopes as Being True: A Review." *Bulletin of the British Psychological Society* 35:186-188 (1982). Identifies the reasons people readily accept generalized descriptions as specific to themselves.

Walker, Warren S. "Lost Liquor Lore: The Blue Flame of Intemperance." *Journal of Popular Culture*, 16(2):17-25, 1982. The 1980s rebirth of the myth of spontaneous human combustion makes this scholarly article about it timely. Part of Walker's research focuses on one particular aspect: "For more than three centuries some of the most gruesome tales short of the supernatural were woven from a colorful bit of folk yarn: a belief in the spontaneous combustion of heavy drinkers." The temperance movement promoted this bit of folklore.

Winslow, John Hawthaway, and Alfred Meyer. "The Perpetrator at Piltdown." *Science 83*, September 1983, pp. 33-34. Article presenting Winslow's intriguing hypothesis that Arthur Conan Doyle was the perpetrator of the Piltdown hoax. Doyle had the opportunity, knowledge, skill, imagination, tools, and motivation to be the hoaxer, says Winslow. He lived only a few miles from the site, had access to the bones found there, and was interested in fossils. Furthermore, he bore a grudge against the scientific establishment of the day because of its opposition to spiritualism, which he believed strongly in. The Piltdown hoax would have provided a chance for revenge.

—Kendrick Frazier

Science, Sensationalism, and the Publisher

In the end it surely must be asked—and asked generally—if the publishers are not responsible for the integrity of the works they print then who is? Any publisher, whether of books, magazines or newspapers, who wants to be taken seriously, who claims some status for his institution and its wares, who claims, in short, to be considered "professional," does not drift into this twilight world of semi-truth or indulge in sensationalism or scare tactics. The right to publish does not imply the duty to publish anything and then disclaim responsiblity, moral or legal, for the consequences. The very notion of being a professional implies an acceptance of moral responsibility for the consequences of one's work which affect both the other members of the profession and society at large.

—June Goodfield, *Reflections on Science and the Mass Media*, American Association for the Advancement of Science, 1981.

From Our Readers

Project Alpha: Preliminary only?

Randi writes that "UK parapsychologist Trevor Finch [*sic*] had even directly suggested that skeptics try to introduce a conjuror into a lab disguised as a psychic" (*SI*, Summer 1983, p. 25). If he was in fact referring to me (Trevor Pinch), I was writing not as a parapsychologist, but as a sociologist, and my suggestion should not be taken to have emerged from the parapsychological community. Second, if Randi is referring to my article in *Social Studies of Science* (vol. 9, 1979, p. 333), then he did not follow the suggested method. The argument is that fraudulently produced results must first be published as paranormal results and receive the stamp of approval from the wider community. I understand that the McDonnell results with Shaw and Edwards were never formally published. Since for some reason Randi's Project Alpha was revealed before the crucial formal publication, then his findings are to be seen as no more than a preliminary run at the fraud phenomenon.

T. J. Pinch
School of Humanities
& Social Sciences
University of Bath
England

James Randi replies:

My apologies for the printer's error in the spelling of Dr. Pinch's name. I also stand corrected in labeling him a parapsychologist. I had made an incorrect assumption that was quite unwarranted.

There was a good reason for my not allowing the Alpha matter to reach the point (with Phillips and others at the McDonnell lab) where an official publication would have been made. Shortly before the Parapsychological Association meeting in Syracuse, Shaw and Edwards made it clear that something had to be done to prevent such an event. As it happened, Phillips invited me to provide him with a videotape of faked PKMB, and we saw that in the face of that evidence in conjunction with his lab videotapes the psientists would give a poor reception to his data. Furthermore, the planted rumor about Shaw and Edwards being "moles" was already under way, and a good reception for the McDonnell work was very unlikely.

Berthold Schwarz published what he felt was good evidence for the powers of Steve Shaw, though not in what could be considered an authoritative scientific journal. Others ran to the media with their hosannahs. Thus Alpha never received the "stamp of approval from the wider community." We were happy that this was so, for otherwise Phillips could not have continued to receive funding.

The fact remains that those at the McDonnell lab were personally convinced of Shaw's and Edwards's psychic powers and said so in print. Thus Alpha proved its point without causing

irreparable professional damage to the subjects. If the psi community shares Dr. Pinch's feelings that it was no more than "a preliminary run at the fraud phenomenon," then I will have to launch a project that will have everyone *sitting up in approval before I press the detonation button. And I really do not wish to do that.*

Alpha accomplished its purpose—quietly and surely.

Project Alpha: Sabotage?

Martin Gardner's column (*SI*, Summer 1983) makes several factually incorrect statements, some of them about me. (1) I did not start "the hue and cry about entrapment." Randi's hoax was an example of sabotage rather than entrapment since no wrongdoing was elicited from the scientists working in the McDonnell Laboratory and the hoax cost them time and money. (2) I did not "know about Randi's trap almost from the beginning" since I learned about it only in July of 1981, well over a year after it had been initiated. And (3) I did not keep my "trap shut" but expressed my serious concerns about the ethical issues and disclosed the hoax to a number of scientists and science writers. I did not inform Randi's victims of his hoax, however, because Randi had assured me that he would not grossly exaggerate the results in exactly the way he now is doing.

A full discussion of the issues and facts about Project Alpha will appear in *Zetetic Scholar* #12. Martin Gardner and the readers of *SI* interested in learning about all sides on this controversial matter should find that discussion valuable.

Marcello Truzzi
Department of Sociology
Eastern Michigan University
Ypsilanti, Mich.

Marcello Truzzi is editor of the Zetetic Scholar.—*Ed.*

Martin Gardner replies:

I accept Truzzi's three quibbles. His charge of sabotage is a much stronger attack on Randi's ethics than calling Randi's project "entrapment." In Truzzi's long letter to Randi, dated July 29, 1981, in which he expressed great dismay over the project, he referred to the hoax as both sabotage and entrapment. Of course it was entrapment, which the dictionary defines as the act of catching in a trap or luring someone into a compromising statement or act. The question is not whether Randi set a trap, but whether the setting of it was ethical. By calling the trap an act of sabotage, Truzzi obviously feels it was much more reprehensible than I had supposed he felt.

I should not have said that Truzzi knew of the trap "almost" from the beginning. Had I known the exact dates involved, it would have been more accurate to say that he knew about the hoax 19 months before Randi revealed it, or more than a year-and-a half.

When I said Truzzi kept his trap shut, I assumed he kept his word to Randi that he would not reveal the hoax. I am sorry to hear about his blabbing. Truzzi obviously knew that if he disclosed the hoax "to a number of scientists and science writers" the disclosure would reach Professor Phillips as surely as if he had called Phillips on the phone. The wonder is that Phillips did not believe the rumors when they reached him.

Unnoticed irony of Alpha

I noticed with some amusement that the Steve Shaw of James Randi's Project Alpha seems very similar to the Steve Shaw of Donald H. McBurney's and Jack K. Greenberg's article, "Downfall of a Would-Be Psychic," which appeared in the Fall 1980 issue of the SKEPTICAL INQUIRER. If they are the same, it would be interesting to learn when and why Shaw converted from

being a psychic to being a debunker. Was no one at Washington University aware of Shaw's prior exposure? One would think that parapsychologists would read *SI*, if only for self-protection.

John H. Chalmers, Jr.
Houston, Texas

The Editor responds:

You are right. It is the same Steve Shaw. One of the little-noticed ironies of the Project Alpha affair is that we inadvertently blew Steve Shaw's cover by publishing that 1980 article debunking his "psychic" abilities. The parapsychology researchers at Washington University and elsewhere either didn't read the article or didn't believe its message. Shaw's "psychic" performances in the Pittsburgh area were in fact part of his cover. Your editor did not at that time know that Shaw was Randi's Project Alpha plant (he was quickly informed!); McBurney and Greenberg did not know even of Project Alpha's existence. Randi was at first greatly distressed by the premature disclosure in the fall of 1980, believing the project had been compromised. However, on further thought, he became confident that the believers would ignore such information. They did. In fact, the incident reveals the extent to which some psi researchers insulate themselves from and refuse to believe the results of informed critical inquiry, to their own detriment of course.

More on Alpha

Congratulations on James Randi's Project Alpha! His is the most effective way to debunk the psychics, although the effort was considerable.

I think some attention should be directed toward the way in which a distinguished institution (also my alma mater) decided to put such substantial funds into the study of witchcraft. I know that James McDonnell was a generous donor to the school, but it can do long-term damage by "legitimizing" psychic studies. Keep up the good work.

Bernard J. Larner, M.D.
Walnut Creek, Calif.

I do not find anything laudable in James Randi's Project Alpha or in Martin Gardner's praise of trickery. It is a paradox to me how skeptics who lie and cheat are doing the public a service, while psychic poseurs who do the same are despicable.

If these men believe their deceptions were a positive contribution to the field of psychic research or that they have done any better than what they profess to hate in others, they are deceiving themselves most horribly.

Kathleen M. Smith
Hypnotherapist
San Francisco, Calif.

Hooray for Randi, Shaw, and Edwards! Hooray for Martin Gardner's column!

It is my opinion that Randi's scam was *much* more productive than hindering. And I think every nail Martin Gardner hit was on the head.

Karen Achor
Key Largo, Fla.

Iridology critiques in Germany

Russell S. Worrall has done an excellent job in exposing the humbug of "iridology" (*SI*, Spring 1983). However, several German-speaking experts on quack medicine with whom I have discussed the article (notably Professor Irmgard Oepen of Marburg University and Dr. Georg Glowatzki of Berne) regretted that Dr. Worrall virtually ignored the extensive German critical literature on this subject. Presumably the language barrier has kept Dr. Worrall from dis-

covering this goldmine.

The German literature proves that the case against iridology is even more definitive than would seem apparent from "Iridology: Diagnosis or Delusion?"

According to Dr. Worrall, the results of only two controlled clinical studies have been published. In *Medizinischer Okkultismus*, edited by Professor Otto Prokop (Fischer, Stuttgart, 1977) and in *Der Moderne Okkultismus* by Prokop and Dr. Wolf Wimmer (Fisher, Stuttgart, 1976) many more such studies are discussed. These studies span several decades and have involved many hundreds of patients.

In 1927, Frese examined no less than 762 patients whose conditions were known, looking for the appropriate "markings" in the irises. The results were disastrous for the iridological claims. The irises showed a perverse preference for revealing diseases from which the patients did *not* suffer and for failing to register actual illnesses. (This had been noticed as early as 1888 by a medical investigator who visited the inventor of modern iridology, "Dr." Peczely, at the latter's Budapest office. After having been [falsely] told that his visitor had suffered a minor venereal infection Peczely had no difficulty at all in finding the "markings" of syphilis. He did *not* see that the visitor had undergone major surgery—of which he had been told nothing. The anecdote is mentioned in Salzer's debunking book *Augendiagnose und Okkultismus*, published in Munich around 1925.)

The other studies referred to in Prokop (1977) yielded similar results—notably the studies by Kibler and Sterzing (1956), Kuum (1956), and Prokop, Pampus, and Wichmann (1957).

Of particular interest is an elegant experiment reported by Jancke in 1955 (*Munch. Med. Wschr.* 97, 7, 205). Jancke had examined 150 patients with the help of the iris chart as developed by the leading iridologists Vida and Deck. The number of "hits" was established by comparing the iridological diagnosis with the patient's medical records. Next, the chart was turned 90 degrees in such a way that, say, the part of the iris originally associated with the upper jaw was now representing the bladder. The number of "hits" was found to be the same as when the chart was held in its iridologically proper position!

Dr. Worrall mentions that, in his pro-iridology book, Jensen refers to the investigations of Deck without describing the details of these investigations, the nature of the controls, or the standards used for diagnosis. The German literature throws a strange light on these supposedly rigorous studies.

Deck (a naturopath, not a medical doctor) and Vida (who did have medical qualifications) jointly published the book *Klinische Prufung der Organ—und Krankheitszeichen in der Iris* in 1954 (Haug Verlag, Ulm.). The book was subjected to merciless criticisms in the professional medical journals. Lobsack, in his book *Magische Medizin* (Bertelsmann, Munich, 1980), summarizes these criticisms by stating that Vida and Deck's investigating methods "bordered on manipulation." The two iridologists had had prior knowledge of their test subjects' medical records and they had selectively employed their own chart system in order to obtain matching diagnoses. They had systematically ignored the "signs" they had previously known to be wrong. Prokop and Wimmer tell us that Dr. Vida completely failed when, in 1955, he attempted to demonstrate his method in front of a committee consisting of Professors Hellmeyer, Sarre, and Wegner.

It is most unfortunate that the language barrier makes the exceptionally important critical German literature on fringe medicine virtually unaccessible to non-German-speaking skeptics. Both Professor Oepen and Dr. Glowatzki have told me that they hope

ways will be found to surmount this obstacle.

Piet Hein Hoebens
Amsterdam, The Netherlands

Russell S. Worrall replies:

I read the letter from Piet Hein Hoebens with great interest. I would like to thank both Professor Oepen and Dr. Glowatzki for bringing to my attention the many critical studies on the subject of iridology in the German literature. I will attempt to locate these within the University of California system in the near future.

Evidence in parapsychology

We are pleased to see that the SKEPTICAL INQUIRER (Summer 1983) has given space to our "Marburg Manifesto," inspired by Piet Hein Hoebens. Mr. Hoebens's personal remark to the *SI* to the effect that "... psi is basically no more than an unproven hypothesis" provides a good opportunity to clarify our basic position toward the evidential problem of parapsychology a little bit more.

For the present purposes we find it useful to distinguish between "hypothesis" (in a theoretical sense) and a "construct" (in an empirical one). As to the empirical evidence for psi phenomena, the crucial point is not whether psi is an "unproven hypothesis" but whether it makes sense to use "psi" as an empirical construct that is defined operationally and that doesn't depend on theoretical preconceptions. Such constructs should be validated only by empirical means (in physics, for example, "electron" is such a "successful" construct). It is our opinion that there are at least some promising experiments in parapsychology today—especially of the Schmidt random-number-generator variety—which indicates that the introduction of such constructs is a legitimate scientific undertaking, whatever the final outcome may be. Our agreed-upon statement No. 2 ("... it cannot be rationally maintained that psi is a fact established beyond scientific doubt") is mainly based on the fact that given the present unsatisfactory state for doing competent parapsychological research there are simply not enough psi experiments that could *definitely* settle the usefulness of such constructs. True enough: research is the thing!

Eberhard Bauer and
Walter von Lucadou
Psychological Institute
University of Freiburg
Freiburg im Breisgau
West Germany

Defending skepticism's defense

Somewhat irritated by the response in letters (*SI*, Summer 1983) to the article by Arthur Reber defending skepticism, I feel myself driven to reply.

First, I cannot follow how one equates the three said canons with dogmas. Agreed, scientists, intellectuals, and skeptics are known for not being 100 percent sure of anything, but doubting the basic principles with which science has discerned the universe since its beginnings would remove the fundament on which all scientific work is based. Until someone brings forward a case that violates these canons or until someone proposes something better, we have no reason to reject them.

Second, proponents of "psi" and nonskeptics are not coherent when they say they uphold the canons mentioned while proposing something that implies the opposite.

It is especially disheartening to see skeptics using the kind of rhetoric pseudoscientists are expert at. Personally, I feel that most of us, myself included, are not immune to this kind of argumentation and tend to allow ourselves to be led into a state of confusion. I could cry in despair at times.

Let me also point out one aspect I

think Reber neglected. For scientists, investigations precede theories, whereas pseudoscientists propose theories according to wishful thinking, coincidences, and random incidents that they misinterpret. These theories precede careful investigation. It is quite obvious that from this point on the proponent will stand under pressure to prove himself right and neglect, perhaps unwittingly, all other considerations.

Amardeo Sarma
Rossdorf, W. Germany

Motives for ESP test-kit

Gordon Hammerle has quite properly expressed certain doubts and questions about my Dover book, *Test Your ESP Potential* (Book Reviews, *SI*, Fall 1983). Perhaps I can remove some doubt and explain my motives.

I am quoted as saying that the book and kit offer a way for the reader to "evaluate the extent and significance of his own, his friends', and his family's powers of ESP." Gordon seems to think that this implies an acceptance of ESP. Not so. If I were to outline a method of examining the reality of Santa Claus (careful surveillance of chimneys the evening of December 24, along with beard-pulling, tummy-probing, and other attendant precautions), it would imply no more endorsement of the claimed reality of Santa. In fact, in this book, I carefully point out the lack of adequate replication of psi experiments and thus the improbability of the reality of paranormal powers.

In the text, I ask readers to report to me their results, so that I might comment on possible significance. Dr. Hammerle should know that if I were sent a short-term success report, my reply would be exactly as he has noted—that "the most rational and parsimonious explanation would be that [this result represents] one of those 5 times in 100 when such an extreme result would happen purely by chance." I would follow that by asking that replication be attempted. Please note that I also said, "You may *begin* to believe paranormal powers are present if you reach or exceed the figures listed." (Emphasis added.) The operating word is "begin"—in exactly the same way that, hearing shots coming from the local bank, you may *begin* to assume a hold-up is under way, with the distinct possibility that a movie is being shot on location. Only further observation can determine which is the proper conclusion.

Now to reveal my dark secret. *Test Your ESP Potential* is, in effect, an experiment. My object is to obtain data from amateur experimenters who are responding to their own curiosity, while being carefully instructed how to avoid pitfalls encountered by less cautious investigators. Other attempts to give the layman the means of testing for ESP have failed to provide necessary caveats, in my opinion. And perhaps my experiment is already proving a point. To date, almost two years since the book appeared on the market, I *have not received a single report from anyone who has performed the tests.* And the book has sold rather well, here and abroad.

As for my attempting to "cash in on the vastly larger market for books that appeal to believers," Professor Hammerle errs in proposing this goal. I was paid a rather modest one-time fee for this book (I receive no royalties whatsoever as a result of sales) after having supplied the text, several rewrites, and all the illustrations. There has been zero profit in it for me—though I firmly believe that seeking a fair profit for work done is an honorable pursuit.

If this present book can serve to properly inform the layman—within reasonable limits of understanding—of correct experimental protocols, and also equip him to prove for himself that well-recognized laws of chance still operate in spite of inflated claims of supernatural forces that are said to

supersede them, it will have served its purpose.

James Randi
Rumson, N.J.

Circular logic

Shame on Michael Dennett for attacking Colin Wilson (Book Reviews, *SI*, Summer 1983) for making no attempt to refute his critics! How can anyone refute Wilson's circular logic as so clearly presented in a "Twilight Zone" magazine interview, April 1983, p. 28.

The interviewer asks: "So you think it requires a special talent to see a ghost?"

To which Wilson replies: "Oh, yes. Not only is it a special talent, but two people could be sitting together in the same room and one would see a ghost and the other not."

So there you have it. If someone claims to see a ghost and you don't see it—why, it's your fault for not having that "special talent." As noted earlier, this logic comes from a special place we call the Twilight Zone.

Simone Musa
Portola Valley, Calif.

Tracking Nessie

I am writing a book about the controversy surrounding the Loch Ness "monster." Partly in connection with that, I am compiling a bibliography of writings about the subject, including items in newspapers. The latter in particular are very difficult to locate—very few newspapers are indexed. I should like to invite the help of any of your readers who have collected material on the subject. I am happy to offer in exchange for material that I do not yet have, copies of my bibliography, which is revised periodically and currently runs to 80 pages, and to reimburse the cost of making copies of material sent to me.

Henry H. Bauer
Dean, Arts and Sciences
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